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INDEX TO VOLUME VIII.

Annotations:—

Abortionist in Chicago, The, 110
Abuse of massage, 236
Advertising in lay papers, 234
Annual museum, The, 549
Apostoli's method, 361
Army and naval medical officers, 362
—— Medical School at Netley and its worthies, 236
Asepticism *v.* antisepticism, 744
Association for the Deaf, 178
Automatic sight-testing machine, An, 496
Birmingham to the front, 745
———— School of Medicine and Durham University, 690
Blackmail, or grasp your nettle, 432
Blackpool public, The, and the Medical Council, 48
Branthwaite Home, The, 364
British Nurses Association, 495
——— Gynæcological Society, 111, 178, 434
——— Medical Association, 296, 745
———————— Leeds meeting, 1889, 48
Buying up of hospital appointments, The, 295
Camps for poor children, 496
Caution for insurance companies, 112
Caveat emptor, 49
Certifying factory surgeons, 178
Chronic lead poisoning, 48
Collective Investigation Committee, The, 497
Committee on vaccination, The, 362
Compulsory Notification Act at Lytham, The, 744
Concussion of the spine, 612
Contagious Diseases Act at Singapore, 691
Continental Anglo-American Medical Society, 692
Credulous people, 433
Dangers of administering gas, 690
Death of Dr. Joseph Rogers, 297
Degrees for London students, 364
Doctor for twopence, A, 614
Dr. Oliver Wendell Holmes, 613
Dress of women, 49
Edged tools, 49
Edinburgh scandals, The, 48
———— School of Medicine for Women, The, 743
Edwin Owen, Mr., and the Journal, 549
Election at the Royal College of Surgeons, 434
Electrolysis, 49
Essence of the proceedings of the Medical Council, 432
Euthanasia, 109
Father Damien, 363
Fees of medical witnesses at assize courts, 295
—— for attendance on Indian princes, 177
French Congresses, The, 692
General practitioners and medical charities, 364
———— Medical Council minutes, 234
German code of ethics, The, 613
Germicidal treatment of disease, The, 365
Growth of ambulance work, 612
Hackney carriages and poisoning, 111
Handwashing controversy, The, 177
Heloan, 692
High *v.* low dresses, 235
Hog ahead, The, 112
Horse extracts *v.* beef, 743
Hospital administration, 611
———— question, The, 549
Hydrophobia in Germany, 234
Hysterorrhaphy, 111
Increase of cancer, The, 111
Infant mortality from syphilis, 110
Infantile insurance, 550
Insanity as the result of gynæcological operations, 363
Inter-Colonial Medical Congress, The, 234
Invasion of the *masseur*, The, 745
Irresponsible imbeciles—what shall be done with them? 613
Irish Medical Schools and Graduates' Association, 110, 236, 743
Journal of the British Medical Association, The, 549
Knife *v.* electricity, The, 179
Laboratory for work, The, 433
Lending of prescriptions, The, 111
Leprosy, 434
Malcolm Morris indemnity fund, 499
Mammonite thrift, 235
Marasmus, and other vague causes of disease, 743
Medical Defence Union, The, 743
———— actions, 178, 691
———— Sick and Benefit Society, 112, 178, 364, 433, 496
———— matters in Homer, 362
———— legislation in Tennessee, 295
———— Register, The, 234
———— men on the County Council, 177
———— providence, 48
———— clubs, 49
———— aid societies, 110
Meeting of the Royal College of Surgeons of England, 744
———— of the British Medical Association, 548
Midland Volunteer Medical Association, 294
———————— — Ambulance field day, 611
Modern interne, The, 496
M. Peyraud's experiments, 434
Nantwich as a Health Resort, 497
Netley School, The, 364
New animal vaccination station, A, 236
—— use for the photograph, A, 612
—— lithia water, A, 615
—— cure for insomnia, A, 693
Next meeting place of the British Medical Association, 614
Opening of the schools, The, 615, 690
Out-patient reform, 610
Paris Exhibition, The, 432
Pasteuriana, 179, 237, 294, 362
Patent medicines, 178
Paupers *and* paupers, 295
Penny a week collection, 433
Philanthropic scheme, A, 610
Philosopher's stone, or what? The, 430, 551
———————— The—fatal experiments, 612
Post-graduate schools, 48
Prevention of rabies, The, 550
Proposed resolutions, 498
Prosecution of unqualified practitioners, 612
Protection in the States, 178
Provincial dinner of the Irish Medical Schools, 434
"Provincial Medical Journal," The, 743
Quack medicines and religious papers, 235
Quacks and quackery at the Antipodes, 177
Rabies in France during 1888, 363
Recent results of the Pasteur treatment, 432
Registration of midwives, The, 691
Rentoul's, Dr., resolutions, 549
Resort of the well-to-do, The, 178
Routine anæstheticism, 110
Royal College of Surgeons and its members, The, 363
Saccharine controversy, The, 49
Scale of fees, 693
Secret poisoning, 549
Sentimentalism *v.* syphilis, 691
Shorthand for medical students, 433
Signs of the times, 109
Singular case, A, 112
Strange case, A, 693
Strychnine in dipsomania, 693
St. Mungo's, 693
Superannuation of Poor-law medical officers, 235
Syringomalia, 364
Tenth International Medical Congress, The, 745
Thomas's splint, 690
Tobacco, 111
Training of nurses, 294
Volunteer medical staff, The, 236
———— medical service, The, 177
Voting by proxy, 611
What is pistoia powder? 49
Workmen's weekly contributions to hospitals, 236

Bibliographical Record, 64, 128, 192, 256, 320, 384, 448, 512, 576, 640, 704, 768

Clinical Cases:—

Biniodide of mercury in obstetric and general practice. By C. R. Illingworth, M.D., 283
Case of exophthalmic goitre, A—improvement. By Wm. H. Pearse, M.D., 285
—— of Hodgkin's disease. By T. C. Railton, M.D. (*illustrated*), 353
—— of hypertrophy of the toe nails and lower extremities. By Wm. Berry, F.R.C.S.I. (*illustrated*), 284
Elephantiasis of the arm following a severe burn. By Wm. Berry, F.R.C.S.I. (*illus.*), 284

Contributors and Contributions:—

Abraham, P. S., M.A., M.D., etc. Medical examinations and medical education, 642
———————— The etiology of Leprosy—a criticism of some current views, 518
Ackroyd, William, F.I.C. The milk supply and lunacy, 726
Alderson, Fredk. H., M.D. Case of relapsing typhlitis—recovery after aspiration—external incision, with remarks, 264
Alexander, W., M.D. Neurotic gangrene (?) simulating Raynaud's disease, 582
———————— Large abdominal hernia with adhesion of the contents to the wall of the sac—cured (*illustrated*), 139
Baker, A. R., M.D. The prospects of medicine in America, 266
Bantock, Geo. Granville, M.D., etc. Table of 238 cases of completed ovariotomy (163 to 400), with remarks, 721
Barrs, A.G., M.D. A lecture on some of the clinical relations of albuminuria, 26, 73
Bellamy, E., F.R.C.S. The practical use of trusses, and the operations for the relief of strangulation (*illustrated*), 22
———————— On some of the more common diseases of the breast, with their diagnosis and treatment, 137
Black, J. Gordon, M.D. Case of gouty and pulmonic (?) embolism, 333
Blenkarne, W. L. H., L.S.A., etc. An improved midwifery forceps, 135
Bonavia, E., M.D. Food and drink, 335, 395, 453
Bond, C. J., F.R.C.S. Notes on five cases of intra-cranial abscess *(illustrated)*, 2
——— F. F., M.D. Notes on a case of abscess of liver *(illustrated)*, 464
Bronner, Adolph, M.D. On the local treatment of non-suppurative diseases of the middle ear *(illustrated)*, 330
Brown, A. M., M.A. The animal alkaloids: their probable role in fatigue and sleep, 10
Chapman, J. Milne, M.D. On a visit to Birmingham and Mr. Lawson Tait, 456
Charpentier, M., M.D. (Paris). On the application of anæsthetics in natural labour, 403, 583
Clark, C. Burman, L.R.C.P. Suggestions for the more rational treatment of respiratory affections, 5, 68, 130, 204
Collier, Herbert, M.D. Tumours of the female breast, with notes of cases of four different types, 271
Cousins, J. Ward, M.D. On topical remedies for disorders of the anus and rectum, and improved instruments for their application *(illustrated)*, 194
Crespi, A. J. H. The ventilation of public buildings, 400
Davies, A. M., M.R.C.S. The connection between milk supply and disease, 386
——— Naunton W., F.R.C.S. Uterine medicines, 328
Dickson, C. R., M.D. Explanatory notes to Dr. Keyes' investigation on electrolysis, 15
Dolan, T. M., M.D. Obstruction to natural labour by the twisting of funis round the neck of the child *(illustrated)*, 82
———————— Gynæcological specialism and general practice *(illustrated)*, 322
Easmon, J. Farrell, M.D., etc. Newbouldia lævis in the treatment of dysentery, 708
Emrys-Jones, A., M.D. The medico-ethical teachings of Oliver Wendell Holmes, 650

Erskine, Jas., M.A., M.B. Deafness and deaf-mutism in relation to speaking and lip reading, 199
Fitzgerald, T. N. Medicine in Australia, 195
Fox, Chas., M.R.C.S. Quasi-hydrophobia, 76
Freer, Edward L. The surgical aspect of rickets, 261, 419
Greene, G. E. J. Medical officers of health: their training, and the conditions under which they should hold office, 589
Handford, H., M.D., etc. Cases of unilateral syphilitic affection of the spinal cord *(illustrated)*, 66
Harkin, A., M.D., etc. An enquiry into the current theories of the causes and nature of acute rheumatism, and the treatment generally adopted for its cure, 18, 78, 141, 272
Hirst, A., M.D., etc. The medical training of the country practitioner of 30 years ago, 707
Illingworth, Chas. R., M.D. Acupuncture, 727
Jones, Dr. Macnaughton. The use and abuse of massage, 213
——— R. Partial excision of huge lymphangioma of leg *(illustrated)*, 17
——— Robert. Notes on the treatment of club hand, 472
Keetley, C. B., F.R.C.S. A few practical remarks on trusses, and their application to inguinal and femoral herniæ, 517
Kingzett, C. T., F.I.C. On the comparative antiseptic values of chlorides, nitrates, sulphates, and other chemical substances, 451
Knaggs, H. Valentine, M.R.C.S., etc. Notes on the treatment of acne, 705
Le Page, John F., M.D. The remote causes of pelvic disease, 719
Lister, Sir Joseph, F.R.S. A new antiseptic dressing, 713
Mackintosh; D., M.D. On the treatment of the acute stage of eczema, 398
Madden, T. More, M.D. Treatment of uterine cancer, 585
McCaw, J. Dysart, F.R.C.S. The hygiene of midwifery, 591
Maguire, Robert, M.D., etc. The history of protective inoculation, 661
Moore, Sir William, K.C.I.E. The analogy of cholera and summer diarrhœa, 450
Murray, W., M.D. On the removal of renal calculi by toxic doses of belladonna, 582
Myrtle, Andrew Scott, M.D. Neurasthenia, true and false: diagnosis and management, 84
Oakley, J. Consanguineous marriages, and retinitis pigmentosa in children, 329
Orton, C., M.D. Remarks on the treatment of rheumatic fever, 263
——— Charles Scarlet fever, 727
Parsons, G. G., L.R.C.P. The use of antipyrin in the treatment of sea-sickness, 583
Pearse, W. H., M.D. Cholera and disease viewed in relation to evolution, continuity, and molecular theory, 145
——— Some illustrations of consumption, 578
——— Chill or rigor, 404, 460
Pope, H. Campbell, M.D., etc. The beginnings of disease, 654
Pozzi, S., M.D. On osteitis deformans, or senile pseudo rachitism *(illustrated)*, 88, 153
Rabagliati, A., M.D., etc. Albuminuria in its relations to life assurance, 709
Robson, A. W. Mayo, F.R.C.S. Three cases of transfusion, 465
——— Rodent ulcer of the face *(illustrated)*, 8
——— Gymnastics for lateral curvature of the spine *(illus.)*, 66
Savage, Thomas, M.D. Some remarks on abdominal and renal surgery, 466
Shaw, Alexander B., M.D. Suspension in the treatment of affections of the spinal cord, 514
Smith, F. A. A., M.D; What to do with the dead, 258
——— Noble. Some practical points regarding the use and application of orthopædic instruments *(illustrated)*, 136
Tait, Lawson, F.R.C.S. Ectopic gestation, 645
Thomas, H. O. On the treatment of fractures of the patella *(illustrated)*, 470
Thomson, Wm., M.A., F.R.C.S. The operation of excision of the knee joint *(illus.)*, 209
Vacher, Francis, F.R.C.S. Clothing (*illustrated*), 155
Vance, A. P. M., M.D. Femoral osteotomy for the correction of deformity, resulting from hip joint disease (*illustrated*), 339
Wahltuch, Adolphe, M.D. Massage, 202
Walker, Benjamin, F.S.A. Co-existence of diphtheria and typhoid fever, 589
Wheelhouse, C. G., F.R.C.S. The progress of medicine and medical education, 521
Woods, Hugh, M.D. On the oxyiodides of calcium and bismuth, 590

Correspondence:—

Acute rheumatism. By C. R. Illingworth, M.D., 383
——— and endocarditis. By H. Buss, M.D., 640
Amendments to Friendly Societies' Act, 1875. By "Philalethes," 317
Arsenic eating. By G. Cadogan-Masterman, 704
——— By Chas. J. Mouncey, 640
Biniodide of mercury, The. By C. R. Illingworth, 511
Bronchitis treated by Fellows' syrup of hypophosphites. By James J. Fellows, 320
Canadian drink statistics. By James Whyte, 575
Case of lupus of the face. By Eustace J. de Gruyther, L.R.C.P., 256
Chronic plumbism. By M.D. Edin., 62
Compulsory notification of infectious diseases, The. By D. Biddle, 255
Compulsory vaccination. By E. Bonavia, M.D., 383
Construction or misconstruction of prescriptions. By Wm. Fraser, B.A., 256
Diagnosis wanted, A. By "Junior," 320
Diphtheria in schools. By "Philos.," 383
Dublin Barracks, The. By "Polyorcetes," 192
Dysidrosis pompholyx: its treatment and its analogy to trachoma. By C. R. Illingworth, M.D., 768
Election at the Royal College of Surgeons, The. By Chas. Steele, 448
Histological note, 576
Hospital out-patient reform and the public medical service. By Robert R. Rentoul, 766
Lateral curvature of the spine. By E. L. Freer, 384
Liverpool hospital Sunday and our medical charities. By Robert Rentoul, 127
Medical aspects of Bournemouth, The, and Dr. Crespi's article on Bournemouth as a health resort. By Horace Dobell, M.D., 318
Medical reform. By Jas. Gilroy, M.D., 63
National Home Reading Union. By J. B. Paton, 640
New inflatable dilator. By S. Benton, 64
Nitrate of silver in erysipelas. By J. P. Thomas, M.B., 63
On an epidemic of border land fever and inflammation. By Wm. H. Pearse, M.D., 574
On going to sleep. By "Sleepyhead," 191
On the removal of renal calculi by toxic doses of belladonna. By Benj. Walker, M.D., 704
Out-patient hospital reform and provident dispensaries. By Robert R. Rentoul, M.D., 638
Pasteurian Statistics. By Vincent Richards, 319
Progress of a young practitioner. By M.R.C.S. Eng., L.R.C.P. Lond., 256
——— By Junior, 128
Proposed Hospital Tax and the evil it will work. By Robert Rentoul, 254
——— scale of fees for the public medical service of England. By Robert R. Rentoul, M.D., 701
——— public medical service of England. By Robert Rentoul, 445
Public Prosecutor, A. By M.D., 511
——— medical service, A. By Fred. H. Alderson, M.D., 767
Pyretic action of antipyrin. By C. R. Illingworth, M.D., 320
Quasi hydrophobia. By Chas. Fox, 191
Queries. By "Rep," 704
Rejuvenescence. By J. G. Coppinger, M.D., 512
Reply to Dr. Dobell. By Alfred J. H. Crespi, 319
Royal College of Surgeons, The, and its members. By Leslie Phillips, M.D., and A. G. Bateman, M.B., 255
Saccharin. By Wilson, Salamon & Co., 126
State of the profession, The. By Philalethes, 445
Statistical inquiry. By Philalethes, 383
Take your medicine. By C. R. Illingworth, 191
Treatment of acute disorders of the respiratory organs, The. By C. R. Illingworth, M.D., 253
Unqualified assistants. By an Assistant, 128
Voting by proxy. By Hugh Woods, M.D., 703
——— By R. Saundby, M.D., 768

Health Resorts of the World:—

XXIV.—The Riviera. By J. E. Fishbourne, M.D., 28
XXV.—The Lincolnshire Fens, 31
XXVI.—Great Malvern, 92
XXVII.—The South Wales Borders and the Golden Valley of Herefordshire, 93
XXVIII.—Somerset, with special reference to Wells. By A. J. H. Crespi, 163
XXIX.—Bournemouth and its neighbourhood By A. J. H. Crespi, 218
XXX.—Ajaccio. By an old Oxonian, 223
XXXI.—The New Forest. By A. J. H. Crespi, 345
XXXII.—Wiltshire: Salisbury and Stonehenge. By A. J. H. Crespi, 348
XXXIII.—Bath, 406
XXXIV.—Weymouth. By W. Armstrong Willis, 472
XXXV.—Swanage. By W. A. Willis, 528
XXXVI.—Lundy Island. By A. J. H. Crespi, 529
XXXVII.—Boscombe. By our Special Medical Correspondent, 533
XXXVIII.—Lynmouth and Lynton, North Devon. By H. N. S., 595
XXXIX.—Folkestone. By C. Egerton Fitzgerald, F.R.C.S., 598

Hospital Reports:—

Royal Albert Edward Infirmary, Wigan, 189

Leading Articles:—

Abuse of medical charity, The, 741
Again the hospitals, 292
British Medical Journal and its critics, 230
——— and the new regime, 356
Broken idols, 686
Cambridge, 544
Cerebral topography, 740
Child of the English savage, The, 107
Consumptive travellers, 176
Covering and the Medical Council, 46
Death of M. Chevreul, The (*illustrated*), 290
Defence of cheap dispensaries, A, 232
Doctor in fiction, The, 174
Experimental gynæcology in 1824 and 1889, 291
Expert testimony in criminal cases, 609
Exposure of electrical quackery. An, 493
Euthanasia, 687
Gonococcus of Neisser, The, 356
Hospital or asylum? 742
Housing of the industrial classes, The, 494
Hypodermic injections in the treatment of syphilis, 108
Immediate and remote results of operations for local tuberculosis, The, 688
Influence of the study of medicine, The, 428
——— of Carlsbad water on uric acid and excretion, The, 231
Maybrick case, The, 544
Medical Register, The, 741
——— care of sailors, The, 686
On the modern treatment of pulmonary tuberculosis, 607
Orthopædic surgery in England and the United States, 359
Pelvic cellulitis, 358
Presidential address at the British Medical Association, 547
"Provincial Medical Journal," 44
Provision for the insane in Yorkshire, The, 606
Public medical service for England, A, 493
Puerperal mortality, 610
Saccharin, 175
Sanitary administration of dairy farms, 108
Some facts about climate, 104
——— statistics on rabies 426
Spectacles, 44
Springs of Bath, 429
Sulphonal and its effects, 427
Tact, 548
Tolerance and intolerance in medicine, 47
Trade protection for chemists, 175
Treatment of locomotor ataxy by suspension. The, 231
What is the best treatment for diphtheria? 492
Year's work in a maternity hospital, A, 293

Medical Miscellanea, 60, 125, 190, 251, 316, 380, 444, 510, 572, 636, 701, 765

Monthly Report on New Preparations, Food, Drugs, Inventions, etc., 40, 100, 283

New Remedies:—

Aluminium sulphites, 50
Antipyrin, 180, 435, 552
Arecoline, 180
B-naphthol, 113
——— mercury, 180
Benzanilid, 50
Camphoric acid, 113
Carbonaphtholic acid, 50
Casearia esculenta, 746
Cerium oxalate, 50
Cocaine, 551
Cola nut, 551
Condurango bark, 113, 237
Creatine, 113

Dioscoea villora, 50
Di-thio-salicylic acid, 366
Embelia ribes, 180
Eschscholtzia californica, 237
Eserine sulphate, 237
Euonymin, 180
Exalgine, 365
Hydracetin, 500, 552
Hydronaphthylamine, 365
Hysteronica baylanuen, 366
Imperialine, 50
Meconarceine, 237
Menthol, 500
Methacetin, 365, 552
Myrtol, 365
Naphthol, 500
——— camphor, 552
Nitrite of amyl, 180
Ormosine, 366
Papier iodogène, 435
Paraldehyde, 365
Phenacetin, 113
Phenyl propionic, 237
——— acetic acid, 237
Picrotoxin, 237
Pyciranthemum linifolium, 435
Pyrodin, 50
Rubidium ammonium bromide, 552
Saccharin, 50
Safranine, 435
Safrol, 500
Salicyl analide, 50
——— and thymol mercury, 50
Salol, 237
Sanguisorba officinalis, 237
Santonoxin, 500
Sodium dithiosalicylate, 500
Sparteine, 113
Strophanthus, 180, 366
Sulphonal, 113, 366
Thiocamf, 500
Thiol, 113
Ulexine, 500
Yeast, 50

Our Portrait Gallery :—

Ainsworth, William Francis, 577
Aitken, Sir William, 513
Barnes, Robert, M.D., 129
Bartolomé, M. M. de, M.D., 321
Beale, Lionel Smith, M.D., etc., 65
Cousins, J. Ward, M.D., F.R.C.S., 385
Crichett, G. Anderson, F.R.C.S.E., 641
Edis, Arthur Wellesley, M.D., 193
Freeman, Henry Wm., F.R.C.S.I., 705
Hutchinson, Jonathan, F.R.S., 1
Jessop, T. R., F.R.C.S., 449
Moore, Sir Wm., K.C.I.E., 257

Periscope :—

Dermatology, 58
Gleanings in medicine. By W. B. Kesteven, M.D., 50, 113, 180, 238, 297, 366, 435, 500, 615, 693, 746
Notes from French journals. By H. R. Hatherly, M.R.C.S., 51, 114, 182, 244, 300, 369, 438, 502, 617, 697, 751
——— from Russian, Polish, and Swiss journals. By Valerius Idelson, M.D., 53, 116, 183, 243, 302, 370, 440, 503, 617, 698, 752
Obstetrics and diseases of women, 120, 304, 442, 505, 552, 618, 756
Public health, 699, 754
——— Dr. Hime on infection by milk, 55
Selections from continental medical journals. By G. F. Cadogan-Masterman, M.D., 242, 299, 367, 437, 501, 616, 695, 749
Skin diseases, 117, 623
Surgery, 759
Therapeutical notes from foreign journals, 57, 119

Reviews :—

Ainsworth, W. Francis. A personal narrative of the *Euphrates'* expedition of 1884, 103
Anderson, J. W., M.D. The essentials of physical diagnosis of the chest and abdomen, 288
——— T. McCall, M.D. On syphilitic affections of the nervous system : their diagnosis and treatment, 228
Ashby, Hy., M.D., and G. A. Wright, B.A. The diseases of children, medical and surgical, 488, 539, 603
Attfield, Prof., F.R.S. The place of saccharin in pharmacy, 172
Blackwell, Dr. Elizabeth. The purchase of women : the great economic blunder, 738
Bramwell, Byrom, M.D. Studies in clinical medicine, 354
Bryant, T., F.R.C.S. Hunterian lectures on tension, inflammation of bone, and on cranial and intra-cranial injuries, 102
Campbell, Harry, M.D. The causation of disease, 422
Coleman, Walter S., M.D. Section cutting and staining, 173
Collier, W., M.A. Hydrophobia : a review of Pasteur's treatment, 42
Construction and maintenance of school infirmaries and sanatoria, 229
Ellis, Thomas S. The human foot : its form and structure, functions, and clothing, 605
Gairdner, W. T., M.D. LL.D. The physician as naturalist, 354
Gordon, Surgeon-General C. A., M.D., etc. The vivisection controversy in Parliament, 682
Gorham, John, M.R.C.S. Plaited crystal models, 170
Higgens, C., F.R.C.S. Ophthalmic practice, 41
Jacobi, A., M.D. Intestinal diseases of infancy and childhood, 42
Klein, E., M.D. Elements of histology, 287
Kuhn, Dr. L'enseignement et l'organisation de l'art dentaire aux etats unis, 172
Leishman, Wm., M.D. A system of midwifery, including the diseases of pregnancy and the puerperal state, 42
Meric, H. de. Notes on venereal disease, 422
Newman, David, M.D. On the diseases of the kidney amenable to surgical treatment, 491
——— Robert, M.D. A defence of electrolysis in urethral strictures, with documentary evidence, 229
Ogle, J. W., M.A., M.D. On the relief of excessive and dangerous tympanites by puncture of the abdomen, 228
Plowright, C. B., L.R.C.P. A monograph of the British uredineæ and ustilagineæ, 537
Ranney, Ambrose, A.M., M.D. Lectures on nervous diseases from the standpoint of cerebral localisation, and the latest methods employed in the diagnosis and treatment of these affections, 538
Rentoul, R. R., M.D. The causes and treatment of abortion, 421
Reports from the laboratory of the Royal College of Physicians of Edinburgh, 421
Ringer, Sydney, M.D. A handbook of therapeutics, 173
Robertson, G., F.C.S. A manual of practical pharmaceutical chemistry, 355
Roose, Robson, M.D., etc. Nerve prostration and other functional disorders of daily life, 42
Roth, Bernard, F.R.C.S. The treatment of lateral curvature of the spine, with appendix on the treatment of flat foot, 288
Saundby, Robert, M.D. Lectures on Bright's disease, 423
Smith, J. Greig, M.A., etc. Abdominal surgery, 681
Stewart, W. R. H., F.R.C.S. Epitome of diseases and injuries of the ear, with a chapter on naso-pharyngeal diseases causing deafness, 173
Strahan, Jno., M.D. The diagnosis and treatment of extra-uterine pregnancy, 423
Sutherland, J. F., M.D. Breakdown of the hospital system, 101
Tait, Prof. Lawson. Lectures on ectopic pregnancy and pelvic hæmatocele, 169
Thompson, Sir H. Clinical lectures on diseases of the urinary organs, 41
Transactions of the Royal Academy of Medicine in Ireland. Edited by Wm. Thomson, M.A., F.R.C.S., 286
Tuckey, C. Lloyd, M.D. Psycho therapeutics, or treatment by sleep and suggestion, 227
Vize, Rev. J. E., M.A. Micro-fungi Britannica (exsiccati), 537
Vulliet et Lutuad. Leçons de gynecologie operatoire, 171
Whitta, Wm., M.D. Elements of pharmacy, materia medica, and therapeutics, 229
Whittle, E. G., M.D., etc. Congestive neurasthenia, or insomnia and nerve depression, 738
Windle, Bertram, C. A., M.A., etc. A handbook of surface anatomy and landmarks, 173

Short Notices, 43, 103, 289, 355, 424, 491, 543, 605, 683, 739

Societies, Proceedings of :—

Bradford Medico-Chirurgical Society, 124, 764
Bristol Medico-Chirurgical Society, 59
British Association for the Advancement of Science, 625
——— Gynæcological Society, 59, 122, 185, 248, 309, 375, 508, 700
——— Laryngological and Rhinological Association, 509
——— Medical Association—meeting at Leeds, 556, 633
——— Pharmaceutical Conference, 630
Clinical Society of London, 59, 124, 185, 246, 308, 375, 443
——— of Manchester, 123, 246, 307, 762
Cork Medical Society, 247
Edinburgh Medico-Chirurgical Society, 122, 376, 443
Glasgow Medico-Chirurgical Society, 123
——— Southern Medical Society, 59, 122, 186
——— University Societies, 122
Gynæcological Society of Chicago, 250
Harveian Society of London, 765
Hastings health meeting, 371, 376
Hunterian Society, 246, 375
Liverpool Medical Institution, 123, 763
Manchester Medical Society, 246
Medical Society of London, 59, 121, 186, 246, 307
Midland Medical Society, 186, 764
New York Surgical Society, 308, 763
Northumberland and Durham Medical Society, 185
Nottingham Medico-Chirurgical Society, 186, 246
Obstetrical Society of London, 700
——— Philadelphia, 124, 187
Leeds and West Riding Medico-Chirurgical Society, 764
Odontological Society of Great Britain, 309
Ophthalmological Society of the United Kingdom, 121, 376
Pathological Society of London, 247, 764
——— Manchester, 123
Royal Academy of Medicine in Ireland, 121, 247, 310, 443, 508, 762
Royal Medical and Chirurgical Society, 58, 122, 185, 443
Sheffield Medico-Chirurgical Society, 59, 308
Society for the Study of Inebriety, 308
Some French Congresses, 572, 633
Suffolk district Medical Society, 187
West London Medico-Chirurgical Society, 376, 700
Yorkshire Association of Sanitary Inspectors, 248

Special Articles :—

Arsenic as a cosmetic. By G. F. Cadogan-Masterman, M.D., 534
Aspirations of American medicine, The. By W. W. Dawson, M.D. (Cincinnati), 481
Assalini's forceps. By G. F. Cadogan-Masterman, M.D., 476
Birmingham Sanitary Improvement. By A. J. H. Crespi, 279
Bournemouth for children. By Horace Dobell, M.D., 99
Control and cure of inebriates, The. By A. J. H. Crespi, 592
Croonian lectures on preventive inoculation, The, 410
Cycling in its relation to health. By W. Armstrong Willis, Monmonth, 733
Domestic water filter, The. By G. F. Cadogan-Masterman, M.D., 678
Drinking water of cows in relation to summer diarrhœa, The. By A. W. Martin, 478
Few scattered notes bearing on medicine, 413
Function of the semi-circular canal, The. By G. F. Cadogan-Masterman, M.D., 600
Health resorts of the world. The Riviera, 28
——— The Lincolnshire Fens, 31
——— Great Malvern, 92
——— The South Wales Borders and the Golden Valley of Herefordshire, 93
——— Somerset, with special reference to Wells, 163
——— Bournemouth and its neighbourhood, 218
——— Ajaccio, 223
——— The New Forest, 345
——— Wiltshire : Salisbury and Stonehenge, 348
——— Bath, 406
——— Weymouth, 472
——— Swanage, 528
——— Lundy Island, 529
——— Boscombe, 533
——— Lynmouth and Lynton, 595
——— Folkestone, 598
Is life worth living ? By A. J. H. Crespi, 728
La trepanacion en la epilepsia. By Dr. Enrique de Areilza, 38
Medico-mechanical gymnastics (*illus.*), 90
Microbes and animal alkaloids. By Professor Peter (Paris), 160
Oxford : its colleges and halls. By A. J. H. Crespi, 675
Reform at the Royal College of Surgeons, 224
Remarks on Jenner and vaccination : a strange history in medicine. By H. H. Taylor, F.R.C.S., 342

Some quack remedies, 416
—— recent scientific advances. By A. J. H. Crespi, 33
Therapeutical notes. By our Berlin correspondent, 168, 281, 351, 417, 480, 536, 602, 680, 737
Urn burial. By W. Armstrong Willis, 672
Visit to the works of the Sanitas Company, 474
Working classes, The. By S. U. M., 668

Surgical Aids and Appliances:—

115. Bench for operating on the eyes of children, 60
116. Richardson's prize dispensing cabinet (*illustrated*), 60
117. Swinging berth for ships (*illustrated*), 125
118. Apparatus for illuminating and examining anatomic specimens (*illustrated*), 189
119. Electric photophore (*illustrated*), 252
120. Electric battery for dentists (*illus.*), 252.
121. Trouve's electric auxanoscope (*illus.*), 253
122. A new needle holder, 379
123. Medical field companion, 380
124. Splint for use after tarsotomy, 380
125. Support for the lithotomy position, 380
126. The J R P insufflator (*illustrated*), 510
127. The new antiseptic artificial ear drum (*illustrated*), 765

Special Notes:—

ABDOMINAL hysterectomy, followed by insanity, 752
Abortion of mammary abscesses, 367
Abscesses, Antiseptic treatment of, 50
Acetanilide, Poisoning by, 182
Actinomycosis homines, 185
Acne, Treatment of, 183
Action of the liver on poisons, 751
Acute infectious osteo-myletis, 184
——muscular atrophy following injury to head, 53
—— tetanus, 246
Addison's disease, 300
—— disease in a diabetic patient, 764
Albuminuria in typhoid fever, 697
Ammonia as an antidote in cocaine poisoning, 753
Amputation of cervix uteri, 247
—— of leg, 764
Anatomy of the pelvic floor, 700
Antifebrin, Therapeutic use of, 183
—— Ill-effects of, 367
Anti-fermentative treatment of diarrhœa, 765
Antipyrin, Poisoning by, 697
—— in diabetes, 747
—— as a uterine anodyne, 556
—— as an anodyne in normal labour, 116
Anti-rabic inoculations an unscientific method in the prevention of hydrophobia, 754
Antisepsis neonatorum, 238
Anti-vaccination fallacies, 297
Apantes médicos de Marruecos, 368
Apepsia, dyspepsia, and bradypepsia, 750
Apostoli's treatment, The, 52, 553
Arsenic in glycerine, 637
Are sewage farms dangerous to public health? 242
Athrepsia: a wasting disease of childhood, 747
BACK-KNEE, knock-knee, bow-knee, etc., 185
Bacteriology of puerperal fever, 617
Bacteriotherapia, 369
Bacteriotherapy, 437
Bandaging the extremities for pulmonary hæmorrhage, 241
Billroth on the dangers of carbolic acid, 749
Births in Paris, 245
Bismuth, Poisoning by, 555
Black tongue, 555
Bladder, Injuries of during laparotomy, 507
Blenorrhagia, Gonococci in, 553
Blisters in nervous affections, 244
Blood pressure, 367
Boracic acid in gynecic practice, 505
Borate of ammonia in pulmonary disease, 616
Bovine pleuro-pneumonia, 751
Brachial neuralgia, 556
Broad ligament cyst, A, 185
Bromide of ethyl as an anæsthetic, 697
—— of gold in epilepsy, 241
Bromidrosis, 750
Butylchloral for neuralgia of the trifacial, 752
CÆLOSCOPE, The, 240
Cæsarean section, 54
Caffeine in acute pleurisy, 439
—— Citrate of, Poisoning by, 187
Calculous cholecystitis, 245
Calomel as a diuretic, 440
Camphorated naphthol in pulmonary tuberculosis, 553
Cancer, Propagation of, 367
Carbuncles, Treatment of, 58
Carcinoma of the corpus uteri, 305
—— of the uterus and ovary, 758
Carissa xilopieron, 616
Case of conjunctival cyst, 763
—— hydrophobia occurring in a patient previously inoculated by M. Pasteur, with observations by M. Lanceraux upon the failure of the anti-rabic treatment, 755
—— renal calculus, 763
—— rickets with unusual deformity, 762
Castor oil, Pleasant mode of taking, 442
Casuistry in obstetrics, 506
Cerebral abscess healed, 500
Chapped nipple, 436
—— nipples and mastitis, Acetate of lead in, 184
Chemical matches, Manufacture of, 244
Chloride of zinc as a caustic in cancer of female generative organs, 764
Chloroform, Quality of, 555
Cholecystotomy, 121
Cholecystectomy for biliary fistula, 751
Cholelithiasis, 615
Cholera, Treatment of, 183
Chorea, Eighty cases of, 122
——Sulphate of physostigmina in, 51
——Treatment of by prolonged sleep, 553
Chronic urethritis, 698
——lead poisoning, 308
——cocainism, 239
Chresylic acid, 51
Citrate of caffeine, Poisoning by, 187
Cocaine in surgical practice, 184
—— Poisoning by, 238, 501, 697
Compound dislocation of ankle, 123
—— fracture of the skull, Recovery from, 298
Condurango, 57
Congenital absence of womb and vagina, 698
—— fibro-myoma of the tongue, 51
—— heart disease, 764
—— growth of the larynx, 247
Consanguinity, 52
Constipation, A novel cure for, 297
Coronilla in heart disease, 555
Corrosive sublimate in gangrene of the lungs, 752
Creasote in phthisis, 438, 441
Cremation, 122
—— at Paris, 301
Creolin, 240
—— for ulcers, etc., 53
—— in surgical practice, 504
—— poisoning, 241
Creoline, 114, 301
Cryptopinum, 616
Cyst of broad ligament, 508
Cysticercus cellulosæ in the brain, 114
Cysto-fibromyoma of uterus, 250
DANGERS of laparotomy by gaslight, 697
—— of treatment of otorrhœa by boracic acid, 439
Deaths from hydrophobia in the Pasteur Institute, 503
Degeneration of lens, 121
Diabetes, 440
—— Codeia in, 57
—— Pathology of, 436
—— Recent views on, 502
Diabetic coma, 695, 749
Diagnosis of leprosy, The, 747
Dictionary of physical and natural sciences, 246
Dilatation of the uterus, 52
Diphtheria, Local treatment of, 367
—— Notes on twenty-seven cases of, 310
—— Treatment of, 304
—— Treatment of by antiseptic steam, 122
—— Treatment of by benzoate of soda, 114
Disease of cerebellum, 764
——of the middle ear, 375
Diseases of glandular structures of the pharynx and naso-pharynx, 509
Disseminated sclerosis, 123, 764
Disorders of speech, 695
Dislocation of feet, 247
—— of the coccyx, 52
Diuretic action of strophanthus, 181
Does the menstrual flow originate in the tubes? 442
Double intra-ligamentary cysts, 124
—— parotitis of a reflex organ, 694
Duodenal juice, On obtaining from man, 370
Dupuytrens contraction, 240
ECTOPIC gestation, 758
—— Case of, 375
Ectopic pregnancy and pelvic hæmatocele, 505
Ectopia vesicæ urinariæ, 116
Educational overstrain, 370
Electricity in diseases of the female pelvic organs, 366
Empyema of the maxillary antrim, 764
Emulsion of vaseline with water, 697
Enlarged spleen removed by operation, 124
—— spleen with anæmia, 123
—— tonsils, Excision of, 694
Entero-vesical fistula, 306
Enteroptosis of Glènard's disease, 115
Epidemic infantile pemphigus, 242
Epilepsy with intellectual aura, 186
Epithelial metaplasia, 695
Epithelioma affecting the upper jaw, 309
——(?) of larynx of a girl, 509
—— of the neck of the womb, Hot water injections in, 617
—— of the clitoris, 700
Equino-telluric origin of tetanus, On the, 367
Ergot in night sweats of syphilis, 697
Erotic feelings preceding and following epilepsy, 309
Erysipelas and circumcision, 502
—— Picric acid in, 555
Erythema gangrenosum, 59
Etiology and treatment of diabetes, 299
Exalgine, 695
Examinations in bodily efficiency, 628
Excision of right shoulder, 763
—— of the knee-joint, 443
Exophthalmic gôitre, Treatment of, 183
Explosive medical compounds, 369
External urethrotomy, 185
Extirpation of the larynx, 752
FALKENSTEIN consumption cure, 119
Fees to medical men, 301
Fever due to stricture of urethra, 299
Fibro-cystic tumour of uterus, 700
Fibroid tumour causing intestinal obstruction, 442
—— tumours undergoing calcareous changes, 59
Fibula, Fraction of treated with massage, 241
Fixed uteri, 188
Fluoride of sodium, Biological action of, 302
Fœtal blood at birth, 238
Formation of urinary meatus from the ureter in the side, 752
Fracture of the skull, with hernia cerebri, 762
Function of the coccyx in parturition, 501
GASTRIC digestion in phthisis, 556
—— hæmorrhage, 54
—— juice during sleep and wake, 504
General paralysis in women, 556
Gerlier's disease, 439
German Emperor, The, 116
Gleet and sexual astenia, Treatment of, 370
—— Treatment of, 244
Glioma of the retina, 552, 553
Gôitre, Partial removal of, 59
—— Treatment of, 113
Gonorrhœa, Injection for, 240
Gonorrhœal diseases of the uterine appendages, 304
Gouty sore throat, 509
HÆMORRHAGIC infections, 54
Headache, Eucalyptus in, 615
Heavy sentence on medical men, 182
Hepatogenous jaundice, 440
Hereditary transmission of Saturnism, 238
Hernia, Radical cure of, 122
Histological examination of a meningo-encephalocele, 367
—— examination of muscles after tenotomy, 114
Homeriana in phthisis, 301
Horny excrescences, 617
—— growths of the skin, 186
Hot compress in surgical practice, 54
Hydarthrosis of the knee, Treatment of, 617
Hydatid cysts, Treatment of, 299
—— of the liver, 247
Hydatids of the liver, Treatment of, 53, 439
Hydrocele, Treatment of, 300
Hydro-nephrotic kidney, 123
Hydrophobia, 752
—— at Toulouse, 503
—— Chronicles of, 183, 555
—— Prophylaxis of, 502
—— The microbe of, 119
Hydroxylamin, 501
Hyoscine in mental disease, 555
Hyper-pyrexial sunstroke, 553
Hypertrophic cirrhosis in a child, 764
Hypnotism, 123, 554
—— and suggestion, 238
—— in confinements, 697
Hypospadias simulating hermaphroditism, 303
Hysteria from sulphuret of carbon, 51
—— Predisposing causes, 501
—— Sulphur baths in, 51
Hysterectomy during labour, 185
Hysterorraphy as a primary or consecutive operation in uterine displacement, 120
IDENTITY of erysipelas and acute lymphangitis, 439
Idiocy in relation to infantile hemiplegia, 240
Illegal practice, 752
Importance of manure heaps and poultry in the etiology of diphtheria, 436

Induction of labour in kidney disorders, 507
Infantile scurvy, 246
Influence of anæsthetics on the force of respiratory movements, 751
——— of perspiration on gastric juice and urine, 441
Inoculation for charbon, 439
Intestinal obstruction, 508
——— strangulation, 763
——— sutures, 239
Intra-cranial abscess, Treatment of, 52
Intra-thoracic pressure, 186
Intussusception of the small intestine, 124
Inversion of uterus, 505
Iodine in detached retina, 698
Iodoform in burns and scalds, 303
——— in chronic metritis, 697
——— in diphtheria, 239

JEQUIRITY in ophthalmic practice, 184

LAPAROTOMY for extra-uterine pregnancy, 187
——— for ovaritis, 124
——— for ruptured tubal gestation, 310
——— for tubal disease, 376
Laryngeal polypi, 246
Larynx, Disease of, 124
Leontiasis ossium, A case of, 435
Les inoculation anti-rhabiques, 120
Les tics et les ticeurs, 616
Lipoma of the breast, 752
Local anæsthesia, New method of producing, 301
Los estados tifodicas fatiga, 501
Lung and heart disease, Treatment of by chloroform, 502
Lupus miliaris, 501

MAGNETIC extraction, A new mode of, 367
Malarial fever and puerperum, 698
Malarial hæmaturia, 370
Male sterility, 241
Malignant disease of rectum, 764
Man with a tail, A, 53
Management of abortion, 756
Manual evacuation of the bladder, 436
Massage in gynæcological practice, 297
Measles and whooping-cough, A new (?) treatment of, 695
Medical characters in fiction, 60
——— poisoning by male fern, 618
——— privilege, A, 183
——— women at St. Petersburg, 300
Medicine in Japan, 693
Menstruation—its nerve origin, 239
Menthol in laryngeal phthisis, 695
——— in the upper air passages, The use of, 695
Milk, Anatomical elements of, 51
—— a cure for bee-stings, 505
Mixed typhus and enteric fever, 122
Mouth speculum, A new and simple (*illustrated*), 301
Muscular atrophy in locomotor ataxy, 764
Myopia, Heredity in, 501

NÆVI, Enormous, cured by galvano-cautery, 240
Naphthalin as an antiseptic, 57
——— in fœtid diarrhœa, 245
Natiform knee, 186
Nephrectomy for tumours of kidney, 556
Nephritis, Case of, caused by cantharides plaster, 51
Nerve grafting, 185
Neuro-muscular irritability, 59
New hypnotics, 746
—— orthopædic operation, A, 552
—— treatment of extensive prolapse of rectum, 751
Nitro-benzine, Poisoning by, 244
Notes on the value of hyoscine as a sedative, 746

OBSTRUCTIONS of the eustachian tube, 695
On drilling capillary holes through the skull, 435
On gunshot wounds of the abdomen, with especial reference to wounds of the intestines, 748
On surgical treatment of empyema, 752
On the action of naphthaline on the eye and general system, 753
On the effects of general hot sand baths, 753
On the influence of general anæsthetics on the respiration, 752
On the influence of saccharin on the assimilation and metabolism of nitrogen in healthy persons, 753
On the use of linen thread for ligatures and sutures, 181
Orchitis, Treatment of, 697
Ovarian cancer, 303
——— sarcoma, 306
Ovariotomies, Report upon thirty-seven, 182
Ozœna, The nature of, 695

PALEO-MYELITIS after injury, 59
Paradental epithelioma, 299
Paralysis agitans and revolving mirrors, 440
——— of lower part of trapezius, 121
Paralytic rabies in a patient of M. Pasteur's, 699
Paraphenaceton, 57
Partial aneurism of left ventricle of heart, 181
Pastes, On, 58
Pasteur Institute at Brazil, 113
——— Institute, Statistics of, 51
——— treatment, The, 114
Pasteur's rabbit-killing virus, Failure of, 694
Pathogenesis of the microbes contained in malignant tumours, 751
Peculiar dislocation of thumb, 121
Pelvic abscess in the female, 506
——— cellulitis, 507
——— measurements, Importance of, 442
Perforating intestinal ulcers, 54
Peripheral neuritis following typhoid fever, 246
Pharmacology of the iodides of potassium and sodium, 617
Phthisis, Treatment of with tannin, 298
——— Immunity from, enjoyed by lime burners, 368
Pigmentation of the skin from internal use of arsenic, 440
Pilocarpine in tetanus, 552
——— in traumatic tetanus, 440
Pleurisy, 376
——— Comparative results in, 616
Poisoning by creoline, 751
——— by illuminating gas—rational treatment, 749
——— by petroleum, 437
Pregnancy in the rudimentary horn of a unicorn uterus, 238
Progress of cholera in Mesopotamia, 752
Progressive muscular atrophy, 185
——— pernicious anæmia, 181
Prolapsed ovary, 764
——— uteri treated by massage, 442
Prolonged sleep, A case of, 242
Prophylactic value of pulmonary gymnastics, The, 698
Proposal for a Parliamentary enquiry on hospital management, 378
Public manifestations of hypnotism, Prohibition of, 183
Puerperal fever, Etiology of, 59
——— fever, Prevention of, 442
Pulmonary tuberculosis, Treatment of, 367
——— vesicular sound, The, 123
Purulent pachymeningitis, Pathology and treatment of, 239
——— pericarditis, 59
Pyosalpinx, 122, 124
Pyridine as a cardiac stimulant, 52
Pyrodine, 114

QUININE and mercury in syphilis, 441

RABIES, Prevention of in Bavaria, 113
Rabies, Treatment of by Tansy, 436
Rachitis, Treatment of, 370
Radical cure of hernia, 762
Recurrent laryngeal tumour, 616
——— transient blindness, 121
Reduction of hernia by coughing, 746
Removal of a sub-mucous myoma by laparotomy, 182
——— of entire humerus, 369
——— of tumours, 752
Report of the commission on the prophylaxis of tuberculosis, 750
Resection of the small intestine, 301
Responsibility in inebriety, 240
Rickets, 375
Rudimentary croupous pneumonia, 184
——— uterus, 441
Rupture of bladder, 185
——— of the popliteal artery, 186
Rush medals, The, 618

SALICYLATE of mercury, 183, 239
——— Therapeutic uses of, 617
Saline cathartics, Action of, 243
Salol as a dressing, 375
—— in infantile therapeutics, 245
Salts of copper in tuberculous disease, 301
Salutary action of perfumes, 182
Sanitary legislation, 372
Sarcoma of the breast, 59
Scarlatina, Milk in relation to, 55
Sciatica, Hypodermic injection of antipyrin and cocaine in, 53
Sclerema neonatorum, 443
Sea-sand baths in rachitis and rheumatism, 754
Secondary lesion of the tonsils, 503
Senile epilepsy, 697
Senna pods, Therapeutic action of, 553
Similia similibus, 698
Singular poisoning cases at Leeds, 755
Skin diseases due to defective alimentation, 58
Snake bite—pathology and cure, 552
Solanum carolinense (horse-nettle), 747
Soluble phosphate of iron, 302
Spasm of the glottis, 181
Spirometer, A new, 245
Spontaneous cure of an aortic aneurism, 436
Stone in an infant æt. sixteen months, 693
Stricture of the urethra, extravasation of urine, etc., 763
Sterilised milk for the alimentation of children, 752
Subcutaneous mercurial injections, 553
Substitute for tracheotomy, 51
Successful case of laparotomy and supravaginal amputation of the uterus for rupture, 757
——— tendon grafting, 443
Sugar of milk a diuretic, 500
Suggestive chloroform anæsthesia, 116
Sulphate of eserine in chorea, 440
Sulphonal as a hypnotic in insanity, 504
——— Dangers of, 503
——— Physiological action of, 699
——— exanthem, A, 241
Sulpho-ichthyolic sodium in gastro-intestinal catarrhs, 302
Sulpholeinic acid as a solvent, 555
Superficial injuries of the eyeball, 186
Suppurating hydatid cyst of the orbit, 121
Suppuration due to chemical agents, 300
Suppression of urine from impaction of calculi, 246
Surgical diagnosis of the teeth, 309
——— intervention in acute obstruction, 186
Suspension in locomotor ataxia, 297
Suture of the patella, 238
Swallowing a toothbrush, 748
Sycosis parasitica, 58
Synovial and sebaceous cysts, Treatment of, 180
Syphilis in Paris, 183
——— Salicylate of mercury in, 57

TABES dorsalis, Treatment by suspension, 239
Telephone, Injurious effects of, 555
Tetanus, A cause of, 238
——— following ovariotomy, 507
——— Infection of, 51
The method of mixed narcosis, 182
Therapeutic employment of eschscholtzia californica, 367
Thiol, a rival of ichthyol, 746
Thrombus of the retinal veins, 123
Tinea favosa, 555
Tooth extraction, Hæmorrhage after, 52
Total extirpation of uterus, 182
Transmission of infectious diseases from mother to fœtus, 245
Transparent cyst of the iris, 376
Traumatic cerebral hæmorrhage, 308
Treatment of inebriate women, 308
——— of inguinal and femoral hernia, 759
——— of thrush by saccharin, 752
——— of tonsillitis, 750
Trichorrhexis nodosa, 437
Tropical diarrhœa, 307
Tubal disease a primary cause of intestinal obstruction, 187
Tubercular cavity in wall of heart, 239
——— inflammation of bone, Treatment of, 436
——— kidney, 763
Tuberculosis of the testicle, 697
——— To prevent, 554
Twisted pedicle, 249, 508
Tylophora as an emetic, 115

ULCERATION of the tongue cured by opium, 246
Umbilical and uterine murmurs, 617
Uterine appendages, Removal of, 122
——— fibromata, Treatment of by intra-uterine electrolysis, 51
——— Treatment of by electrolysis, 182

VACCINATION in the French Army, 439
——— in schools, 183
Value of oxygen, The, combined with nitrogen monoxide in the treatment of pulmonary and other troubles, 747
Vegetable parasitic diseases of the skin, 58
Venereal diseases, Salicylate of mercury in, 370
Vesical calculus in infantile urethra, 442
Vomiting in pregnancy, Treatment of, 367
Vulvo-vaginitis in children, 51

WHEN should the obstetrical forceps be used? 505
Whooping-cough, Cocaine in, 116
Why the bromides should be largely diluted in epilepsy, 240
Women's work in sanitation, 372
Wounds, Treatment of by free exposure to air, 115

Yours sincerely
Jon. Hutchinson

THE

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Our Portrait Gallery.

JONATHAN HUTCHINSON, F.R.S.

THE London Hospital at Whitechapel, by its close proximity to the London Docks, where thousands and thousands of labourers are employed, and where accidents are continually occurring, affords the student opportunities of witnessing surgery which few London hospitals can offer. The district, moreover, covered by the London Hospital, densely populated, known by the name of the East End, is composed of an essentially working class population, for whom hospital aid is essential; so, whilst the surgical side is but too well supplied with cases, the medical side is also plentifully furnished.

The following summary of patients for the year 1887 will show the value of the London Hospital in the treatment of accidents and diseases:—

IN-PATIENTS ADMITTED.

Free	Accidents	2,321	6,019	8,260
	Urgent extra cases	3,638		
Recommended by Governors and Subscribers			2,241	

OUT-PATIENTS.

Free (including 7,321 accidents)	74,296	95,760
Recommended by Governors and Subscribers ...	21,464	

From these figures, the place occupied by the London Hospital among public charities will be gathered. It is, in reality, the largest institution of the kind in this country, having a complement of 776 beds.

As a teaching institution, apart from the beneficent work for which the hospital really exists, the London stands unrivalled, whether we look to the celebrity of the teachers or to the clinical material available. The considerable increase in the number of students has resulted in the enlargement and improvement of the College building in 1879, and in the almost entire rebuilding of the College buildings in 1886. The new building is now in occupation, and was formally opened on May 21st, 1887, by Their Royal Highnesses the Prince and Princess of Wales. It might seem invidious to mention individual names connected with the teaching staff when all have claim to mention, but certainly one of the best known is the subject of our illustration, who is now Consulting Surgeon to the Hospital. A brief history of his life work, as given in *Men of the Time*, and in Churchill's "Medical Directory," will fully establish his claims to the position we assign him.

Jonathan Hutchinson, F.R.S., was born at Selby, in Yorkshire, 1828, and educated at Selby. He was admitted a Fellow of the College of Surgeons in 1862; he was appointed President of the Hunterian Society in 1869 and 1870; President of the Pathological Society in 1879-80; of the Ophthalmological in 1883; and was Professor of Surgery and Pathology in the Royal College of Surgeons from 1878 to 1883.

This distinguished surgeon was a member of the Royal Commission appointed in 1881 to inquire into the condition of the London hospitals for small-pox and fever cases, and into the means of spreading infection. Mr. Hutchinson has written works on the following subjects: "On the Form of Dyspepsia which usually attends Phthisis;" "Clinical Memoir on certain Diseases of the Eye and Ear consequent on Inherited Syphilis" (1862); "Surgical Diseases of Women," in Holmes's *Syst. of Med.*; "Transmission of Syphilitic Taint from the Fœtus to its Mother;" "On Constitutional Syphilis," Reynolds's *Syst. of Med.*; "The Rectangular Catheter Staff for Lithotomy;" "The Astley Cooper Prize Essay for 1865;" "On Injuries to the Head," *Contrib.*; "Clinical Illustrations of Amaurosis;" "Lesions of the Eye in connection with Injuries, etc, to the Fifth Nerve;" "Illustrations of Clinical Surgery;" "Clinical Lectures on Rare Diseases of Skin, and on Gout and Rheumatism;" and numerous other papers. He has also lately brought out a manual on "Syphilis;" is on the Council of the College of Surgeons, and was chosen this year to deliver the Bradshaw Lecture.

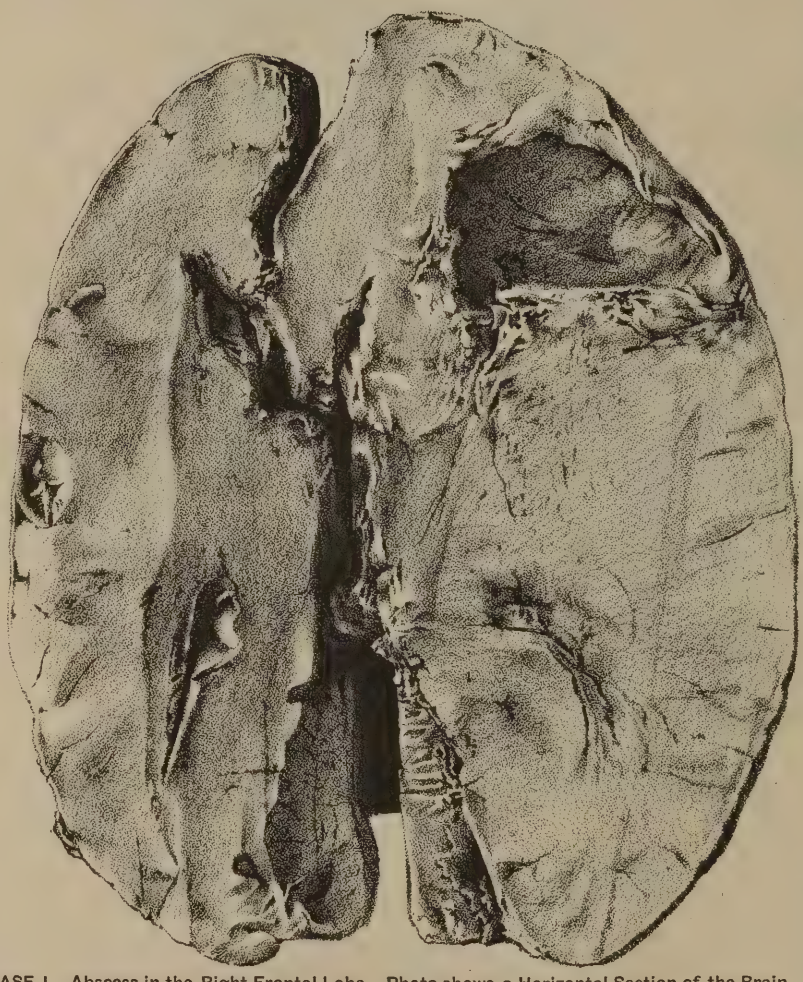
Original Communications.

NOTES ON FIVE CASES OF INTRA-CRANIAL ABSCESS, WITH ILLUSTRATIONS.

By C. J. BOND, F.R.C.S.,
SURGEON TO THE LEICESTER INFIRMARY.

CASE 1.—*Abscess of Right Frontal Lobe.—No Ascertainable Cause.*—S. M——, female, æt. twenty, married, one child. No history of syphilis or tubercle. Present illness began three weeks ago by vomiting after food, accompanied with, and followed by, great frontal headache. On admission patient is continually sick after food; the vomiting is preceded by a sharp pain referred to the stomach. Complains of constant severe frontal pain, exacerbations of which, are accompanied with passing slight lividity of face. Patient lies either on her back or side with eyes semi-closed; answers simple questions rationally, but very slowly, and on pressure; never volunteers any remark, and takes little notice of her surroundings, appearing like a person who wishes to go to sleep, and to be left alone. No tenderness or hyperæsthesia of scalp; pupils rather dilated, react to light. Temperature, subnormal. There is no local paralysis.

One week after admission there was an internal squint of the right eye, with diplopia; vomiting continuous. The mental apathy gradually increased, and the patient now lies on her right side with her legs drawn up. An attack of tonic spasm occurred a few days later, in which the right upper limb was strongly flexed at elbow, wrist, and finger joints, with supination of hand, and the left arm was extended along the abdomen. Death occurred from coma.



CASE I.—Abscess in the Right Frontal Lobe. Photo shows a Horizontal Section of the Brain, and the marked deviation of Septum.

Post-Mortem.—No signs of disease in any organ except the brain, in the right hemisphere of which, in the white matter of the right frontal lobe was an abscess the size of a pigeon's egg. This was situated in front of the level of the motor area, and was separated from the outer surface of the brain by a thin layer of grey substance. The contained pus was crowded with micrococci, singly, and in chains. The abscess had caused marked asymmetry of the hemispheres, pushing the septum between them well over to the left side. No excess of fluid in the ventricles.

CASE 2.—*Abscess in Right Temporo Sphenoidal Lobe following Disease of Tympanum. Rupture into Lateral Ventricle.* A. B——, æt. seventeen; has had discharge from both ears for some years; a large mass of granulations was removed from both sides on February 27th. On the following day patient was admitted, there was some staggering in the gait, chiefly to the right side, and severe occipital headache. Four days later there was some pain on percussion over the right temporal bone, but the staggering gait was much better; also the headache. About 7-30 p.m. the same day, however, severe vomiting came on. The temperature, which had been averaging 99° to 100°, rapidly rose to 106°, and the breathing became stertorous; pupils dilated, and patient rapidly became unconscious, and died comatose in eleven hours.

Post-Mortem.—Both tympanic cavities disorganised and full of cheesy material. On the right side the roof was perforated, and at this spot the brain was adherent to the *dura mater*. At a corresponding part of the right temporo-sphenoidal lobe, at a distance of a quarter of an inch from the surface, was an abscess the size of a walnut, and this abscess had also opened into the descending cornu of the lateral ventricle, this and the lateral ventricle on the same side containing a quantity of purulent fluid. There was also some recent lymph in the posterior cerebral fossa, where the cerebellum came into contact with the petrous bone, but no pus.

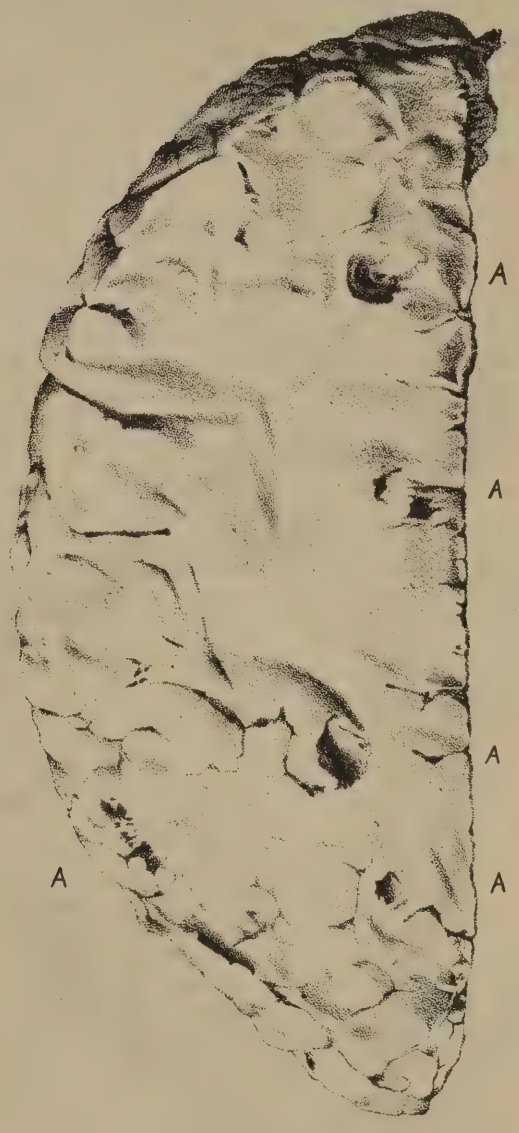
CASE 3.—*Abscess of Left Temporo Sphenoidal Lobe following Disease of Middle Ear. Previous Obliteration of Left Lateral Sinus by Old Clot.*—A. A——, æt. twenty-six. Patient, a healthy sailor, has had discharge from the left ear for three years. Three months ago he suffered from symptoms referable to the disease of the ear—namely, rigors and severe headache, with high temperature; no delirium or convulsions. He, however, recovered from this condition, and was as well as usual until four days ago, when he began to complain of pain in the left frontal and temporal regions, more acute in the former. There is nausea, but no vomiting; temperature normal. Patient is slightly giddy on movement. On February 8th, under

$CH\ Cl._3$, the left mastoid cells were opened by a gouge, but no pus detected. On the following morning patient was conscious, but mumbled somewhat in his speech. He rapidly became unconscious, and died the same afternoon.

Post-Mortem.—Left tympanic cavity full of cheesy material, with perforation of the roof and adhesion of the brain to the *dura mater* at this spot. The whole of the inner portion of the temporo sphenoidal lobe was greatly inflamed, reddened, and softened; and at one part, close to the uncinate convolution, and bordering on the crus cerebri, the softening had reached the stage of disintegration, an abscess cavity with ill-defined walls having formed. The lateral sinus on the left side was completely obliterated, and filled by a very tough, closely adherent, white, fibrous clot, reaching from the torcular herophylli to the left jugular foramen. The clot was, in fact, closely incorporated with the walls of the sinus, showing it to have been at least of some months' duration. No signs of disease in any other organ.

CASE 4.—*Multiple Cerebral Abscess following Pleuro-Pneumonia, with Empyema.*—W. D——, aged twenty-eight, a previously healthy man, had been ill fourteen days, and on admission was found to be suffering from symptoms of pneumonia at the base of the right lung, and pneumonia with pleural effusion on the left side. This pleura was incised a few days later, and a large quantity of very offensive thin pus evacuated. The patient now rapidly improved; the discharge lessened, and the temperature gradually fell to normal, and remained so for three weeks, all the signs of pneumonia disappearing. On February 28th, seven weeks after the operation, patient began to complain of severe headache, chiefly in the forehead and vertex; the temperature rose suddenly to 103°, and continued to rise each evening to 102° or 103°, falling in the morning to about 100°. There was no local paralysis, or twitching of the face or limbs; no optic neuritis; urine, acid, passed naturally; no albumen. Patient had some delusions connected with his employment, that of groom, and rambled at night. He knew his friends, however, and there was no affection of speech, or special sense; reflexes, patella increased. Patient gradually became unconscious, and died comatose on March 10th.

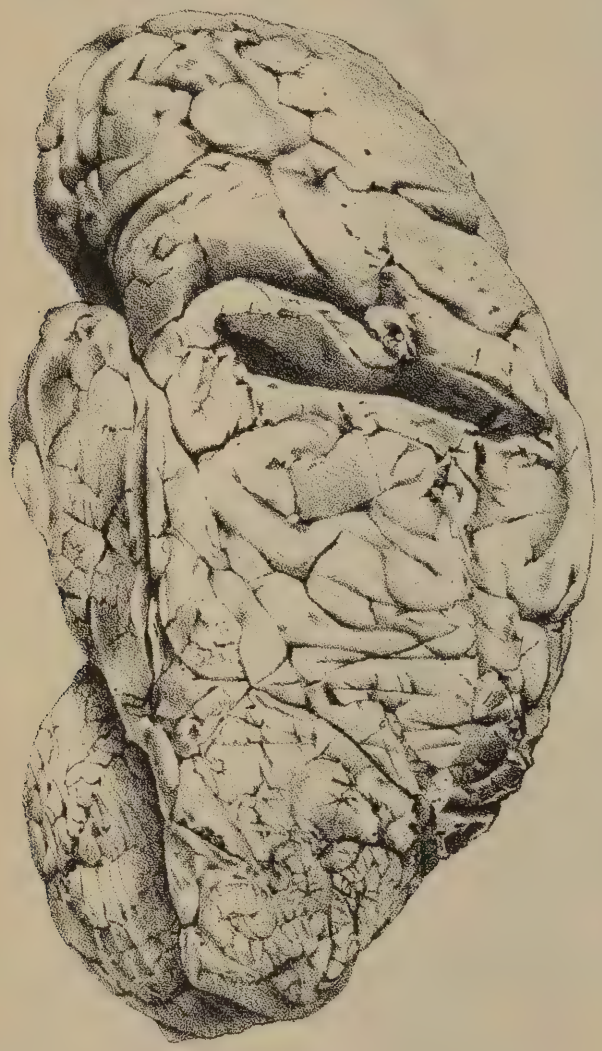
Post-Mortem.—The cavity of the empyema on the left side had shrunk very much, and would only hold a couple of ounces; it was nearly empty, well drained, and non-offensive. The left lung, though somewhat collapsed, had expanded considerably, and showed no signs of pneumonia. Right lung healthy, with the exception of some hypostatic congestion at the base. *Brain:* No meningitis. Scattered throughout the cerebrum (both hemispheres) and the cerebellum (both hemispheres) were numerous abscesses—thirty to forty—varying in size from a pea to a large nut. They contained a green, non-offensive pus, and were situated in the white matter; the smaller, and apparently more recent ones, for the most part, at the edge of the white matter, many of the larger ones encroaching on the grey matter by their advancing growth. A portion of the upper part of the spinal cord was examined and found to be healthy. No abscesses or signs of disease in any other organ, with the exception of some congestion of both kidneys. Though the abscesses were scattered irregularly throughout the whole remaining portions of the hemispheres, very few were detected in the white matter bordering the motor area on either side. A careful microscopical examination of the pus taken from several abscesses, and stained by Koch's method, showed a considerable number of micrococci in each specimen; in many places these were arranged in chains.



CASE 4.—Multiple Cerebral Abscess following Empyema. Photo shows a Horizontal Section of the Left Cerebral Hemisphere, with Abscess Cavities in the White Matter—Abscesses (a).

CASE 5.—*Traumatic Abscess in Left Ascending Parietal Convolution.*—B. W——, female, æt. forty-three, fell down while partially drunk eight days ago, and struck her head on the left parietal region. She did not loose consciousness, but got up herself and went to bed. Next morning she noticed a sensation as of "pins and needles" in her right hand, and this was accompanied with some loss of power in the limb. She, however, went to her work (chairwoman) for the next six days, and on the seventh day complained of headache, and came home from work. On the eighth day her speech was a little "thick" in the morning, and twitchings occurred in the right corner of the mouth; half an hour later her right hand and arm began to jerk, and three hours later, on admission, the

right leg was also in a state of clonic spasm, with increased patella tendon reflex. About six hours later the spasm had entirely ceased; the speech was clear, and patient was quite sensible. It was, however, noticed that on any sudden noise occurring in the ward, such as the slamming of a door, the clonic spasms slightly reappeared. The history of the case after this date is one of gradually increasing, and at last total hemiplegia of the right side, with aphaxia. The patient lived twenty-two days after the injury, and died comatose.



CASE 5.—Traumatic Abscess in the Left Hemisphere, corresponding in position with the Left Ascending Parietal Convolution; the grey matter over the Abscess Cavity has been removed.

Post-Mortem.—Showed the presence of a small scalp wound, which had healed, and beneath this a punctured fracture of the skull, with projection inwards of a spicule of bone from the inner table, opposite the middle of the left ascending parietal convolution. At this spot the *dura mater* had been pierced, and was adherent to the underlying cerebral cortex. Immediately beneath this was an abscess cavity containing non-offensive yellow pus; it was pyramidal in shape, with apex pointing downwards and inwards, in the direction of the white fibres of the cortex. Its base corresponded very accurately [see photo] with the outline of the ascending parietal convolution. No general meningitis. No signs of disease in any other organ.

Remarks.—The above five cases, although recorded very briefly, present some points of considerable interest. In Case 1 no cause could be found for the abscess in the frontal lobe, and I also have a photo of another brain, showing an abscess in a similar position in an otherwise healthy male adult. It is curious that putting on one side cases of abscess due to disease of the nose, which was absent in this case, most of the cases recorded as having no apparent cause, such as pyæmia, lung disease, injury, or otitis, are examples of abscess in the frontal lobe. Thus Adams records a case of double frontal abscess in the *Lancet* of 1862; and in Maudsley's case (*Lancet*, 1865) the disease probably originated in front of, and only subsequently invaded the motor area. At any rate there seems to be some common condition underlying these cases of abscess of the frontal lobes, at present unknown.

In Case 2 the abscess in the tempero sphenoidal lobe burst into the descending cornu of the lateral ventricle. The sudden collapse was probably due to this, and the high temperature perhaps followed on the absorption of putrid pus by the peritoneal-like cavity of the ventricle.

Case 3 is the only one for which the writer is responsible for the treatment; the mastoid was trephined, and it was determined to trephine the skull over the temporo sphenoidal lobe on the following day, but the sudden death of the patient prevented any treatment being carried out. This case clearly shows that obliteration of the lateral sinus on one side is in no way fatal, and probably produces little or no symptoms when brought about gradually, as in the pathological way by formation of clot.

Case 4 adds one more to the recorded list of cerebral abscesses following disease of the chest, and especially empyema. There are several suggestive facts in connection with the abscesses in this case. Their great number (thirty or forty), comparative small size, their position, in the edge of the white matter bordering on the grey cortex, or lining of the ventricles, and the way in which the white fibres of the motor area escaped. The peculiar bright green character of the pus, and the presence of micrococci in the pus. The appearance suggested the idea of a crop of abscesses, arising over a limited period of time, and originating in perhaps some embolic process, septic particles which had originated in the lung tissue bordering on the empyema, having become lodged in the brain. If it could be proved that the capillaries vary in size in different parts of the cerebral hemisphere, being smallest in the grey and larger in the white matter, and larger still in the white matter of the motor or middle cerebral area, this theory would receive considerable support. It is also suggestive that cerebral abscess occurs generally at a somewhat late stage, when the empyema is closing, and the lung expanding; while in other cases the lung affection has been bronchiectasis, pneumonia, and in a few cases fibroid phthisis; cases for the most part in which there have been small collections of putrid fluid in cavities, bounded by dense walls, surrounded by lung tissue. How far the expansion of the lung after empyema, and its movements in respiration help to dislodge the septic thrombi, must be at present only conjectural.

Case 5 is of interest from the unusual limitation of the abscess to one important wedged-shaped area of motor cortex, represented externally by the ascending parietal

convolution; the morbid process underlying the symptoms spreading from the injured portion of brain in the centre, (see photo) upwards to the leg centres, and downwards to the face centre. The reinduction of the clonic spasm by the stimulus of noise is also worthy of note.

A general survey of these cases of abscess seems to point to the general conclusion—that, as in the case of tumour (see Provincial Medical Journal, Aug. and September, 1888), so also the process of suppuration occurs in the white fibres rather than in the grey matter of the brain. Even in the cases due to injury, or in cases following suppurative otitis, it is very common to find a portion of comparatively sound grey matter, between the injured bone or the necrosed tympanum, and the broken down white matter beneath.

SUGGESTIONS FOR THE MORE RATIONAL THERAPEUTICAL TREATMENT OF RESPIRATORY AFFECTIONS.[1]

By C. Clark Burman, L.R.C.P., L.R.C.S. Edin.,
Belford, Northumberland.

(*Continued from page* 544.)

It may not be out of place to look at the differential diagnosis of these three forms of asthma, idiopathic, cardiac and pulmonary (as distinguished from idiopathic). In each, the successful treatment will depend upon a proper differentiation; and as, sometimes, the urgency of the case calls for prompt action on our part, we ought to be prepared to look for the salient features of each, and thus judge how best to treat them.

Idiopathic asthma is characterised by the absence of all those well-known symptoms connected with chronic cardiac or pulmonary complaints—the patient during the interval is perfectly well—his recovery is perfect when the paroxysm ceases; active exertion causes no unpleasant symptoms; thus differing from the cardiac and emphysematous forms, and enables us to form a comparatively easy diagnosis. But to discriminate between the two latter forms, say mitral disease and chronic bronchitis with emphysema, greater care is needed before coming to a decision. Not unfrequently both causes are combined, and then the diagnosis is still more difficult, and we must look to the preponderance of one or more symptoms to aid us in forming a conclusion. In uncomplicated cardiac cases, such as mitral stenosis or dilatation, so often met with as a sequel to acute rheumatism, scarlet fever, etc., we find the breathing free and easy when no exertion is made; when it is attempted, a panting, gasping form of breathlessness is experienced, constituting the "air hunger" of the Germans; so great is the difficulty of getting the blood aërated, from the pulmonary engorgement resulting from exertion. Again, in some forms of cardiac disease depending more upon muscular degeneration of a senile character, rather than valvular lesion like the former, the patient wakes gasping and alarmed from his sleep, he has palpitation, angina, irregular action, and frequently the attack ends by vomiting. Here the cause of the sudden dyspnœa is the feeble heart not being able to force the blood sufficiently quick through the pulmonary vessels to carry on the oxygenation process; in both the cause is identical, in one it is due to a damming back of the blood; in the other, the propulsive power is feeble; in both, the dyspnœa relieves the condition, for the time at least.

In chronic bronchitis with emphysema, we find the thoracic cavity is so distended by the dilated pulmonary vesicles, that expiration is greatly deficient, the residual air is not sufficiently changed, and a more or less constant state of respiratory embarrassment is met with. It requires greater inspiratory force to enlarge this already expanded cavity, and the loss of that elasticity in the pulmonary tissues which executes the expiratory act requires the assistance of the accessory muscles, so that we find a patient suffering from emphysema *always* breathing heavily; and this difficulty is greatly increased upon exertion, since the respiratory act must be so deep that it is necessarily somewhat prolonged, and one long breath to such a patient is of much more use than frequent short ones. Therefore we find emphysematous patients slow in all their actions; they must have time even for breathing, and any cause which necessitates or produces rapid breathing distresses them very much. We judge, therefore, in such cases of the pulmonary over the cardiac origin by the state of respiration during rest, in one tranquil, in the other permanently embarrassed. A patient sooner recovers from an attack of emphysematous asthma than cardiac asthma, for the distended right ventricle requires some time to recover itself, consequently he is longer in experiencing relief; in the latter case it is not only a question of getting the blood oxygenated, but, in addition, the excited action of the heart set up by over distension, has to be overcome. As I have already mentioned, the explanation of these attacks is found in the reduction of respiration both in depth and frequency during sleep, and especially that of the first sleep, which is more profound than that of the early morning. Mönninghoff and Piesbergen, two of Vierordt's pupils, ascertained by experiment the depth of sleep, using as a sensory stimulus the auditory sensation produced by dropping a lead ball from a given height. For a perfectly healthy man, during the first hour the slumber is very light; after one hour and a quarter the depth of sleep increases rapidly, reaches its maximum point at one hour and forty-five minutes, then falling quickly to about two hours and a quarter, and afterwards more gradually; but later on, after four hours and a half, there is a second small rise, which reaches its maximum at five hours and a half, and gradually falls again until the time of awakening. If we compare the time when attacks of nocturnal dyspnœa come on, I think we shall find a marked correspondence between the depth of sleep and the paroxysms. The gradual depression of the breathing permits the carbonic acid to increase in the blood from less frequent interchange, and at the same time facilitates the engorgement of the lungs when the propulsive power of the heart is deficient (for venosity of the blood causes slowing of the cardiac rhythm), but only to the extent of rousing the respiratory centre to an action more or less excited; and where from long standing stimulation, as in chronic cases, the centre has become accustomed, to a certain extent, to an excess of carbonic acid, it responds less readily; yet a certain point is reached when its activity is roused, and violent dyspnœa is the result.

[1] [To the writings of the late Dr. Milner Fothergill, whose recent decease the profession still mourns, I must express my great indebtedness, not only for suggesting the line of thought I have endeavoured to follow in this paper; but also, as the readers of his works will observe, by the numerous quotations, for the actual words in which to express my meaning. I take the opportunity, therefore at this stage to fully acknowledge this assistance in a general way, and thus avoid a repetition of references. For further information I would suggest a careful perusal of the following works of Dr. Milner Fothergill: "The Antagonism of Therapeutic Agents," "Chronic Bronchitis," "Handbook of Treatment," "The Physiological Factor in Diagnosis," and "Gout in its Protean Aspects."]

I will only call to remembrance the remarks I have already made regarding the danger of giving drugs, either as sedatives to the whole cerebral centres, or more particularly, drugs which have a double action, upon both the reflex and automatic and higher centres; when a proper discrimination of the causes producing the dyspnœa might suffice for the administration of a drug which renders a sedative unnecessary.

Uræmic dyspnœa.—Any description of respiratory embarrassment would be incomplete unless reference was made to this form. It is met with in patients suffering from lithiasis in one of its protean forms, perhaps not during an acute attack, but more frequently as a sub-acute condition superimposed upon a chronic gouty state of health, when the heart presents the signs of hypertrophy, and the arteries are markedly "corded" to the touch. Again, we must not forget that not unfrequently bronchitis, of a purely gouty origin shows itself, and fails to succumb to ordinary treatment unless the cause is attacked in combination with expectorant remedies. The case of the late Lord Beaconsfield was an example of gouty asthma, and attracted attention from the fact that most relief to the paroxysms was received from a secret remedy called "Himrod's." Whether the irritation of the bronchial mucous membrane is due to the vicarious action of the membrane, assisting the excretion of those nitrogenous products usually removed by the kidney, or whether the impure condition of the blood renders the membrane more easily inflamed, is perhaps not sufficiently well known; most probably the first is the reason. The fact of gouty bronchitis associated with attacks of dyspnœa, or of gouty patients, in the later stages, being subject to attacks of severe nocturnal dyspnœa without bronchitis accompanying them, is sufficiently recognised; and it may be instructive to look at the pathology of these attacks with a view to successful treatment. The presence of nitrogenous products in excess in the blood may be, and perhaps is a potent factor in the causation of these attacks. Owing to this condition, it is possible that the elimination of carbonic acid is checked until it accumulates to the extent of rousing the respiratory centre to extensive discharges, setting the accessory muscles of respiration into action; or whether the arterio-capillary fibrosis, producing a high state of tension in the capillary system, may now and then produce a state of spasm of the pulmonary vessels, thus leading to interference with the proper oxygenation of the blood, is still an open question. But from the effect of certain drugs in attacks of uræmic asthma, such as nitrite of amyl and nitro-glycerine (which are undoubtedly useful in reducing spasm of the smaller arteries), one would look upon the latter as a likely cause. On the other hand, many cases of this affection yield in a very satisfactory way to respiratory stimulants, when the gouty condition is attacked by alkalies and hepatic stimulants to rouse the functional activity of the liver (which is, according to recent researches, largely implicated in the formation of uric acid), and, at the same time, the well known property possessed by the skin of relieving the disorganised and over-taxed kidneys is taken advantage of. The chief point in treatment is the recognition of the gouty cause. The fact of the bronchial mucous membrane, assisting in the excretion of nitrogenous elements, is found in the proof afforded by holding a glass slide, moistened with hydrochloric acid over the mouth of a patient in a state of coma from chronic renal disease, when white crystals of chloride of ammonium are formed. This may be but one of nature's methods for reducing the poisonous state of the blood by an attack of dyspnœa, when the excited respiration will assist in depurating the blood; so that a plan of treatment which will render the respiratory act more effective will be a useful adjuvant to the stimulation of the skin and liver, which is usually done.

Cheyne Stokes' respiration consists in "the occurrence of a series of inspirations, increasing to a maximum, and then declining in force and length, until a state of apparent apnœa is established. In this condition the patient may remain for such a length of time as to make his attendants believe that he is dead, when a low inspiration, followed by one more decided, marks the commencement of a new ascending and then descending series of inspirations." At one time this rhythmic respiratory derangement was held to belong to the fatty heart solely, but it is now recognised as occurring under a variety of circumstances; it belongs to vascular conditions, and to affections of the cerebral hemispheres; it is also found in uræmia.

This phenomenon, of such grave prognostic importance, is readily explained by the feeble cardiac action (due either to muscular degeneration of its walls, as in fatty heart, or to feeble action, the result of some cerebral cause, as in cases of cerebral apoplexy, or in uræmia by the hypertrophied left ventricle failing and yielding before the strain produced by the high tension in the smaller blood vessels, or perhaps by malnutrition from the vitiated state of the blood) permitting pulmonary engorgement and insufficient aëration of the blood; and as the respiration itself has been, in most of the above mentioned disorders, in an unnatural condition for some time, the excitability of the respiratory centre has become diminished from exhaustion consequent upon long continued effort to keep the blood purified. A considerable increase in the venous state of this fluid is required each time in order to excite it, and we notice the gradually increasing respiratory acts until the climax is reached, and the powerful respirations which eventually appear having thus renewed the blood to an extent whereby the amount of oxygen is sufficient to prevent any further activity on its part, we find a gradual decrease, until at last a momentary cessation of breathing takes place, and the exhausted centre remains quiescent until roused from its lethargy by the demands of the system; though the stimulus required becomes greater and greater to effect this discharge of nervous force, until at last the centre, having become completely exhausted, refuses to respond, and death ensues.

We could not look for stronger evidence as to the indication for treatment. The flagging respiratory centre must be roused by one of the class of respiratory stimulants, while at the same time the cardiac conditions, so very frequently associated with the phenomenon, must be met by appropriate treatment. Might I not carry my suggestion further and say, that the same treatment holds good in those cases of cerebral apoplexy accompanied by embarrassed respiration with accumulation of mucus, so frequently leading to pneumonia, due no doubt to the imperfect respiratory act. We might look for benefit from such remedies as render the act more perfect, since the diaphragm is never paralyzed, while many of the accessory muscles are only in a state of paresis, not paralysis, and capable of being roused into action by a vigorous stimulation. In cases of hemiplegia, where a liability to pneumonia exists, either hypostatic or from increased intra-thoracic secretion, it is of the greatest importance, during the stage of unconsciousness and during convalescence, to make a point of changing the patient from

one side to the other, so that the secretions, if they cannot be then expectorated may, at least, by the simple force of gravity, be kept in the lung of the side upon which the patient is lying; and by frequent changing, the lungs are called into action equally, and the secretion is not allowed to remain long enough in one lung to permit of changes ending in consolidation. It is a plan I invariably adopt, and is useful both in the hypostatic and other forms, while the respiratory action is stimulated by one of the class of remedies already referred to. The beneficial results of frequent changing from one lung to another were extremely well seen in several cases published some time ago in the *British Medical Journal*, where the patients were undoubtedly saved from asphyxia during the period preceding the return of consciousness by this means.

The extreme value of the vicarious action of the skin when other excretory organs, particularly the kidneys and liver, are unable to carry on their function either wholly or partially, is thoroughly recognised in medicine. It will be instructive to consider the relation between pulmonary and cutaneous respiration. Hermann says:—"Respiration, properly so called, which consists in the interchange which takes place between the gases of the blood and those of the atmospheric air, has its seat wherever the blood capillaries are in intimate contact with the latter medium. This occurs at the external surfaces of the organs of respiration, and in addition, at the skin, and in the alimentary canal, which always contains air, though in both the latter. the process goes on with feeble intensity. In some animals, however—*e.g.*, in frogs, cutaneous respiration is of such importance that, after the lungs have been removed, it suffices by itself to supply the small quantity of oxygen which the animal requires."

Carpenter, in his work on "Human Physiology," says: "The aëration of the blood may take place, not only by means of the lungs but also in some degree through the medium of the cutaneous surface, which presents an extent of 1,500 square centimetres." . . . "There is also evidence that the interchange of gases between the air and the blood, through the skin, has an important share in keeping up the temperature of the body; and we find the temperature of the surface much elevated in many cases of pneumonia, phthisis, etc., in which the lungs seem to perform their function very insufficiently." (pp. 376, 377, ninth edition).

Looking at the vicarious action of so many different organs of the body, instances being found in the diarrhœa of uræmia (to check which, before the renal functions are established, is fatal); the exhalation of ammonia and other nitrogenous compounds in the breath of patients suffering from chronic renal disease; the elimination of bile by the different emunctories when the gall duct is obstructed from catarrh, impacted gallstone, tumour, etc., and many others easily enumerated, naturally leads us to the supposition that in the well-marked embarrassment of the respiratory function during phthisis, and other pulmonary affections, the extensive area of blood-vessels in the skin comes to its aid, and acts vicariously. The profuse sweats of phthisis are well-known to occur when the sleep is profound and coma-like, and that, when the patient remains awake the perspiration is less. I have repeatedly stated that the respiratory action during sleep is neither so frequent nor so deep; and, when from the long continued activity of the respiratory centre it is more or less exhausted, may we not look upon this cutaneous action as compensatory, supplementing the pulmonary deficiency. But this cutaneous action is an expensive way of aiding the lungs; the amount of blood salts which escape during the profuse sweats of phthisis interfere materially with the nutrition of the patient, and while we attempt to check the amount of perspiration, we must not forget its compensatory action, and select those remedies, which, while giving the patient the benefit of retaining the valuable blood salts do not prevent the lungs becoming still further embarrassed by the restriction. The agents which would meet both these ends are to be found in a drug, which, while exercising a very marked influence over the sudiparous glands of the skin, at the same time so stimulates the respiratory centre that the changes in the lungs effect such an amount of purification of the blood as to abolish the necessity for the vicarious cutaneous action. Such a remedy is atropia, of which more hereafter. Meanwhile, let me call attention to the fact that opiates, given for the purpose of allaying cough or producing sleep in phthisical patients, invariably increase the sweating, owing to their depressant action upon the excitability of the respiratory centre, as well as by their direct diaphoretic action; it is already so wearied by its continuous efforts to secure, with a reduced amount of available lung tissue, those necessary changes in the blood to make life endurable, if not comparatively easy, that it readily succumbs to a dose which would, in health, have little or no effect upon it; the profound sleep induced still further aids in the respiratory depression, so that either an attack of dyspnœa ensues, or the patient (more frequently at least in phthisis), wakes up bathed in a profuse perspiration. If opiates or other sedatives must be given, and the indications for their use become less frequent when we really understand the cause of the restlessness and dyspnœa, they are to be guarded by combination with some respiratory stimulant which prevents the profuse perspiration (which inevitably occurs unless this is done) by doing away with the need of assistance from the skin, and permits the sedative to affect the higher cerebral centres, and relieve the cough, which is the principal cause of the sleeplessness.

Whooping-cough.—Unlike the act of coughing usually, we find whooping-cough connected with inspiration much more than expiration; at least, it is the inspiratory portion, so to speak, of the respiratory convulsion which gives to it its significance.

I think the evidence recently brought forward respecting this disease is strongly in favour of classifying it among those affections due to the presence of a bacillus; but our purpose here is rather to examine the relation of the paroxysm to the respiratory function, and from it endeavour to find, in the observance of the manner in which this function is interfered with, some indication for its treatment. I think a plan of therapeutics, having this for its guide, will be more successful than those founded on the various theories of its being an affection of the medulla, pneumogastric nerves, or a bronchial catarrh, or due to the presence of a microzyme, though I must admit, upon the latter theory, a treatment aimed at the destruction of those organisms supposed to lead to the specific manifestations should be more successful than one directed to the combating of these manifestations, were it not for the fact so well known regarding this disease, that slight causes, such as a mild catarrh, a chill even, or exposure to cold winds, etc., after the whoop has entirely ceased, will at once cause its re-appearance, due to the effects of habit, so to speak, of the respiratory centre—a nervous "trick," and not to a relapse of the original affection. In whooping-cough we do not have relapses but complications, and the

latter, when occurring during the later period of the second or paroxysmal stage cause it to be prolonged to an indefinite period.

On perusing the list of remedies extolled for the cure or alleviation of whooping-cough, their number is sufficient evidence of the different views held on the subject of its pathology; and so far, at least, we cannot claim to have discovered a specific for this disease. I think the most successful treatment will be found to consist, not so much in the rigid adherence to any set of formulæ, but in the careful calculation of the gravity of any one or more symptoms pointing to some of the many complications so frequent in its course; some due to external causes entirely, as exposure to cold, etc., others dependent on the violence or prolongation of the characteristic paroxysm. These complications may be nervous, as cerebral congestion with convulsions; pulmonary, as capillary bronchitis, collapse of portions of the lung tissue leading to catarrhal pneumonia; gastric, as persistent vomiting, leading to marasmus, or diarrhœa with similar results.

The main points, in my opinion, to which we should particularly direct attention in the treatment of whooping-cough is the character of the respiration and the frequency or severity of the paroxysms. From the first, we can decide whether respiratory stimulants are needed, as, for instance, when the breathing during the intervals is feeble, shallow, and frequent, or on the other hand is deep and strong, though frequent, but combined with an excited state of the vascular system, which would then point to the administration of one or other of the respiratory depressants, which likewise depress the circulation: while the frequency or severity of the paroxysms will guide us in the treatment by indicating whether the respiratory centre is becoming exhausted or remains able to do its work efficiently without assistance, or whether the administration of nervine sedatives is necessary to allay the extreme reflex excitability of the terminal ends of the vagi. Upon the due comprehension of the relative value of these different elements rests, I think, the successful treatment of whooping-cough, the death-rate of which is somewhat of a stigma upon the profession. No hard and fast line can be laid down for the exhibition of bromide of potassium, or of bromide of ammonium, belladonna, alum, quinine, or of the various forms of germicides, so-called. I shall refer again to this subject when I take up the consideration of the "Therapeutics of Respiratory Diseases" in general.

I must apologise for the length of my introduction, but the proper appreciation of my second part rests so much upon a thorough understanding of the various phenomena produced through the influence of the respiratory centre and its afferent and efferent nerves upon the whole mechanism of those disturbances of respiration, which are more or less the constant associates of diseases of the respiratory organs, that I have considered it almost a necessity to take them in detail, and though it may seem a waste of time to go over the well-known phenomena of dyspnœa, asthma, whooping-cough, etc., the increased light thrown upon them by recent research has materially modified our views of their treatment, and necessitates something of a recapitulation for the purpose of applying this newly-acquired knowledge to a system of therapeutics, advancing in proportion as physiological and scientific facts are laid bare; so that we may, by means of new light thus afforded us, adopt a form of treatment which will bring relief to our patients and credit to our profession—the two main objects we are all seeking to obtain.

(To be continued.)

RODENT ULCER OF FACE—REMOVAL—CURE.

By A. W. MAYO ROBSON, F.R.C.S.,

HON. SURGEON LEEDS GENERAL INFIRMARY; LECTURER ON PRACTICAL SURGERY AT THE YORKSHIRE COLLEGE; AND HON. CONSULTING SURGEON BATLEY HOSPITAL.

(REPORTED BY MR. C. F. M. ALTHORP.)

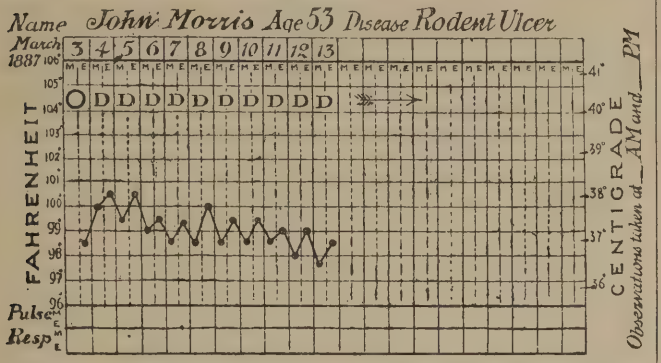
J. M——, æt. fifty-three, a turner, was admitted into the Leeds Infirmary on February 28th, 1887, under the care of Mr. Mayo Robson, suffering from a large excavated sore which occupied the right temporal region.

History.—About twenty years ago patient first noticed a hard pimple about the size of a pin's head, which appeared three quarters of an inch external to the outer canthus of the right eye. *Six or seven years after this* the spot began to ulcerate, there being no discharge at this time. The ulceration gradually invaded the neighbouring structures. During the last few years patient has been applying ointment, which has caused the ulcer to discharge a small quantity of thin pus. He has had no pain during the whole course of the disease.

Present Condition.—On admission there is a large excavated sore situated over the right temporal region, and extending from the zygoma for three inches in a vertical direction. The ulcer is square, with rounded angles, and measures three inches by three inches. It extends from the external angular process of the right frontal bone outwards for three inches. *The floor* of the ulcer is irregular, red, and indurated, the lower half being depressed, and the upper half heaped up above the level of the surrounding skin. It is smooth, rounded, and covered with small vessels. Scattered over the upper part of the sore are several small white nodules, which vary in size from the head of a pin to a pea. *The edge* of the ulcer is raised, indurated, and rounded. A small quantity of pus is discharged daily. The lymphatic glands are not affected.

Operation. — On March 3rd, patient being anæsthetised, Mr. Robson made an incision wide of, and surrounding the ulcer, and proceeded to dissect out the diseased mass. There was much bleeding; several vessels were ligatured, others being occluded by clips. The temporal artery was cut and ligatured. It was found that the ulcer was adherent to the malar bone, and also to the temporal bone, fæscia, and muscle. By means of raspatory and knife it was separated from the subjacent tissues and removed. The parts to which the ulcer was adherent were scraped, and bleeding was arrested by ligaturing several vessels, and also by pressure. Whilst the mass was being removed a quantity of thick curdy pus welled up from under the ulcer. Some of the fat under the

zygoma and malar bone was removed. When bleeding was arrested, the surface of the wound was dusted with iodoform, and a gauze dressing put on.

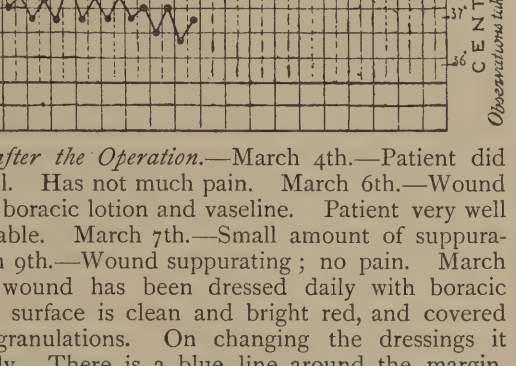


Progress after the Operation.—March 4th.—Patient did not sleep well. Has not much pain. March 6th.—Wound dressed with boracic lotion and vaseline. Patient very well and comfortable. March 7th.—Small amount of suppuration. March 9th.—Wound suppurating; no pain. March 24th.—The wound has been dressed daily with boracic lotion. The surface is clean and bright red, and covered with small granulations. On changing the dressings it bleeds readily. There is a blue line around the margin, especially at the upper part. Patient is well and has no pain. March 26.—Skin grafts were placed on the surface of the wound. March 29.—No signs of skin grafts; surface of wound clean. April 2nd.—Surface of wound clean; blue line round edge. Very little discharge. *Patient made an out-patient*, with orders to dress daily with boracic lotion.

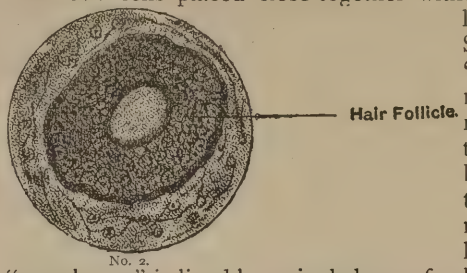
Pathology.—The ulcer measures 3½ inches by 2½ inches. The upper surface has been described clinically. On the under surface and beneath the heaped-up portion were several cysts, from which a quantity of caseous material came away on incision. The whole of the under surface of the part removed was covered by fibrous tissue (temporal fascia).

Recent Microscopical Section.—Stained in logwood and eosin, and mounted in balsam. *Lower Power:* The section was cut from a portion of the upper heaped-up part of the ulcer, and is vertical. Passing from without inwards are seen:—(1) A thin layer of *stratified epithelium* pierced in several places by (2) *hair follicles.* Scattered over the field are (3) *epithelial nests* surrounded by the (4) *ground tissue.* There are also (5) *sebaceous follicles.* (6) *Sweat glands* cut in various directions, and (7) *Hair follicles.*

High power.—The above when seen with a high power (Zeiss D) present the following characters:—1. *Stratified Epithelium* (*a*) Granulation cells. (*b*) The deepest layer consists of columnar nucleated epithelial cells. (*c*) Processes pass down into growth. 2. *Hair follicles.*—There is no excessive growth of the epidermic coat of some of the follicles. 3. The *Epithelial nests* are sharply defined from the surrounding ground tissue, and are made up of a number of small oval cells placed close together without any intercellular substance. Surrounding each "nest" is a narrow, highly refractive, structureless membrane, resembling the "glassy membrane" of a hair follicle. This "membrane" is lined by a single layer of columnar nucleated epithelial cells. Scattered about the "nest" are several acini lined by a single layer of columnar nucleated epithelial cells. Nearer the centre of the acinus than the columnar cells, is seen a transparent refractive membrane (cuticle of hair). The centre of the acinus is filled with a structureless material (hair). Filling up the spaces between the acini are numbers of small oval nucleated epithelial cells placed close together. A portion of the "nest" was undergoing fatty degeneration. *From this part of the section it would appear that the epithelial nests were due to an irregular growth of the epithelial cells of the hair follicles.*



No. 1.



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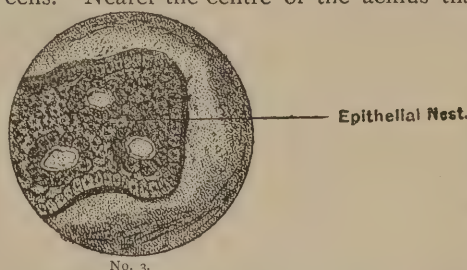
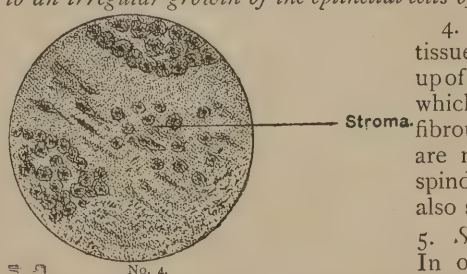


No. 3.

4. The ground tissue (*stroma*) is made up of granulation tissue which is organised as fibrous tissue. There are numbers of both spindle-shaped, and also small round cells.



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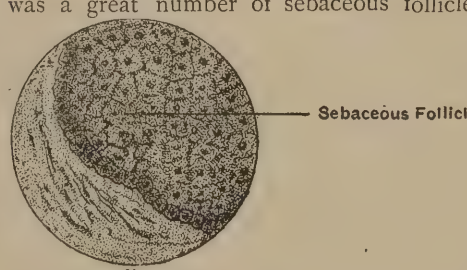
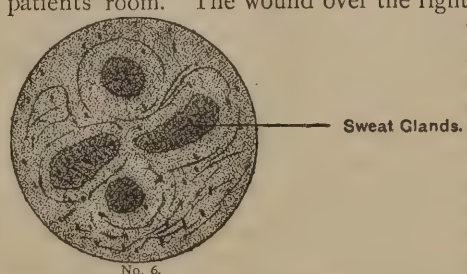
5. *Sebaceous follicles.* In one section there was a great number of sebaceous follicles, the epithelial cells of which appeared to have proliferated to a considerable extent. 6. *Sweat glands*—normal.



No. 5.

April 22nd. Patient was seen in the out-patients' room. The wound over the right temporal region was rapidly healing. The surface was clean and red, and covered with small healthy granulations. The edges were sloping, and the blue line was very well marked. There was no discharge. Patient was in good health.



No. 6.

Remarks.—When seen a year afterwards, the patient remained perfectly well, and may therefore be pronounced cured. The case, so fully and so ably reported by Mr. Althorp, illustrates well the usual history and the pathology of rodent ulcer; and the description of the treatment adopted, exemplifies the method always pursued when the growth (for I think it is clearly made out to be a form of epithelioma, though the two differ materially in clinical characters) can be efficiently cut out; but where this cannot be effected, much can be done by the use of Volkmann's sharp spoon, and the employment of a strong caustic, or the actual cautery. What is necessary, is a very complete removal, leaving only healthy tissues. It is astonishing to see how rapidly a large raw surface will contract and heal. Hence, unless some vital part be in question, I never regard the gap that will be left, "leaving that to be dealt with afterwards," but simply sweep away all the disease, taking care to let the incision be fully one third of an inch beyond the margin of the sore.

THE ANIMAL ALKALOIDS: THEIR PROBABLE ROLE IN FATIGUE AND SLEEP.[1]

A Resumé,

By A. M. BROWN, M.A.

"WHY we sleep?" and "How we sleep?" are questions still awaiting solution. The best informed, as Exner and Beauris, have declared that we know nothing definitely on the subject. More recently, however, new facts have come to light which materially alter the position; in both fatigue and sleep the principal phenomena, at least, may shortly cease to be a mystery. With M. Errerd's work before us, let us see how far this is probable.

The periodical suspension of the activity of the superior nerve-centres is the dominant character of sleep. The attempt to explain it by the condition of the cerebral circulation has often been made; but, by a singular contradiction, some authors set up the intervention of congestion, whilst others insist on anæmia. Recent researches seem decidedly favourable to this latter hypothesis however, in support of which somnolence from great loss of blood, and that kind of sleep that Fleming was able to produce by the compression of the carotids may be cited. The variations of the cerebral circulation present then a certain relation with the alternations of sleep and wakefulness, but as these variations themselves require explanation, they do not suffice for any theory of sleep. The capital importance of oxygen in keeping up the activity of the tissues once recognised, it was very natural to make it play a part in the explanation of sleep, and to attribute it to a less absorption of oxygen—to an anoxia of the brain. This is an idea which goes back to Alexandra von Humboldt, at the end of the last century, and which has been since maintained with certain variations by Purkinje, Pfluger, and others; but this affords no explanation of the cause of the periodicity of normal sleep. Why should the quantity of oxygen received by the brain diminish at certain times and increase at others?

Sleep is not the only phenomenon which returns regularly and in some sort rhythmically in the life of the organism. The movements of respiration and the contractions of the heart are in point. The study of them ought to simplify the problem.

[1] Pourquoi Dormons-Nous? Par M. Leo Errerd, Pofesseur a L'Université Libre de Bruxelles.

It is generally admitted, thanks to the labours of Rosenthal, that the respiratory system is essentially regulated by the richness of the arterial blood in oxygen and carbonic acid. When the blood is charged with oxygen, the nerve-centre which governs respiration, suspending its activity, the tissues take up the oxygen of the blood, replace it by carbonic acid, and thus the blood, become modified, excites the respiratory centre. A respiratory movement then is produced, the provision of oxygen is renewed, the carbonic acid eliminates itself; things restored to their initial condition, the process recommences. It is instability, even in the condition of the blood, which excites the movements necessary to recovery of the primary equilibrium.

The exhaustion of a muscle by labour, and the restoration of its excitability by rest, are phenomena still more comparable with the sensation of fatigue and the restorative effects of sleep. The researches of J. Ranke, which date more than twenty years back, tend to the admission that the exhaustion of the muscle results from the accumulation of substances produced by its contraction, in particular that of lactic acid. If we inject these fatigue substances, as Ranke calls them, into a fresh muscle, it becomes incapable of working—it is exhausted; if we remove them by an artificial washing, or if we allow the circulation of the blood time to carry them away and to replace them by other materials, the fatigue disappears, the muscle acquires again its contractibility, it renews itself. Ranke supposed that fatigue substances operate by monopolising the oxygen to the detriment of the muscle. In any case it would here be still the instability in the chemical condition of the organ—its temporary intoxication—which forces it into a state of rest, until it be disencumbered of the products of its activity, and finds itself in some sort in another condition.

We may ask ourselves whether a theory of toxicity, analogous to those of respiration and of muscular fatigue, would not apply to sleep. Heynsius and Durham assented to this view, then Obersteiner and Binz declared in the same sense. These latter think that the products of exhaustion are continually forming within the brain when active; that their accumulation brings on sleep; and that they are then eliminated by the blood which passes through that organ. But what are these products? From what we know of the reaction of the grey substance and tetanized nerves, Obersteiner was of opinion that it operated essentially as an acid; and such also was the opinion of Heynsius, of Durham, and of Binz. Preyer has expanded this idea, and ingeniously combined it with the theory of sleep by default of oxygen. He arrives also at a conception altogether parallel to that which Ranke had formulated for the muscles. According to Preyer all organic activity gives rise to products of exhaustion, to substances which he calls *ponogenes*—that is to say, engendered by fatigue, from πονος—fatigue, and γενομα—to produce, which accumulate during wakefulness, and, being very oxidizable, terminate by diverting to their profit the oxygen destined to keep up the activity of the different glands, muscles and brain, in such a fashion as that the mental acts and voluntary movements are depressed; the organism falls asleep.

Among the ponogenic substances it is to lactic acid that Preyer ascribes the principal part, and he has made the attempt to demonstrate experimentally that this body introduced into the organism brings on sleep. These experiments have been repeated in different ways. Unfortunately, as Preyer himself has recognized, the results are

not constant, either in the case of man or of animals; thus the theory has not been generally adopted by physiologists.

At the time that Binz and Preyer made known their ideas, we knew of no product of the animal organism similar to the somniferous alkaloids of certain plants. Recent researches have shewn that such do exist, and the question of sleep now naturally presents itself under quite a new light.

Extending to animals, alive and healthy, the researches which Selmi had made on the dead body, Armand Gautier has succeeded in extracting from the flesh of *mammifera* (beef) a series of five organic bases more or less akin to creatin, creatinine, and xanthine. He designates them under the name of *leucomaines* (λευκωρι, white of egg), so as to recall the fact that they are analogous to the cadaveric bases or ptomaines. Pouchet and Bouchard found the alkaloids in the urine of human beings. Gautier himself had indicated it in their saliva in its normal state, and he concluded that animals normally produce alkaloids after the fashion of vegetables. What are the physiological actions of these leucomaines? The aqueous extract of the saliva "is poisonous or narcotic, at least for small birds;" and as to alkaloids from muscular juice, Gautier speaks of them as endowed with an action more or less powerful on the nerve centres, producing somnolence, fatigue, and sometimes vomiting and purging. There is here clearly a question of substances fatiguing and somniferous, such, in one word, as the toxic theory of sleep requires them to be. Curiously, the memoirs of Gautier and their subsequent discussion at the Academié de Médicine, where the importance of leucomaines as regards pathology has been so clearly brought into relief, their signification physiologically seems to have been altogether overlooked, and their probable relation with sleep has not, as far as I know, been mentioned. What was more natural than to bring together the work of Gautier with those above mentioned? The idea was in the air, and was incidentally alluded to by De Parville in a scientific chronicle of the *Journal des Debats*. After having stated the results that Gautier had just obtained, he borrowed of him this phrase: "It is after perfect sleep or rest that the animal is more particularly anærobic and consumes more oxygen than it receives," and he adds, in a note, "during sleep the oxygen absorbed does not correspond to the carbonic acid exhaled. We would be tempted to believe that the excess burns the toxic matters, and that sleep would principally be caused by the accumulation in the blood of leucomaines or analogous substances." It is to be observed that the accumulation of oxygen during sleep, on which De Parville insists, seems to be disproved. Voit expresses himself thus on this subject: "It is in consequence of an error in the arrangement of the experiment that Pettenkofer and myself had concluded at the time that the oxygen is stored up in considerable quantity during the night, and utilised afterwards in the daytime and during labour."

Quite recently Bouchard in his researches on the toxicity of the urine of a healthy human being, has compared the urine secreted during wakefulness and during sleep, and, *en passant*, he makes allusion to the theory of sleep. Without specifying the nature of the poisons with which the question has to do, he says: "The urines of waking and sleeping not only present differences in intensity, they differ also as to quantity. The urines of the sleeping hours are convulsivant, the urines of the waking hours are very little or not at all so; but they are narcotic. It is at this stage that one might ask whether Preyer's toxic theory of sleep should not be accepted. What is certain is, that during wakefulness the body fabricates a substance, which if acccumulated would produce sleep; and that during sleep it elaborates in place of this narcotic substance, a convulsivant substance which, if accumulated, would produce the muscular shock which is provocative of waking. It perhaps might be objected that if the poison which is narcotic brings on sleep by its accumulation in the organism, it is in the tissues and not in the urine that one ought to meet with it during wakefulness. But to express oneself on this point safely, as on many others, it will be well to await the continuation of the labours of Bouchard, and notably the extraction and the dosage of toxic substances. In any case, it appears rational to base a theory of sleep on the products that may be detected in the tissues even of the organism rather than upon those which it eliminates by its secretions.

According to a profound remark of Claude Bernard, all vital manifestation is connected with the destruction of organic matter. This is a consequence of the great principle of the conservation of force. A muscle contracts, when sensibility, will, and thought manifest themselves, when a gland secretes, the substance of the muscle, of the nerves and of the brain and glands, becomes disorganised, destroys and consumes itself. In a certain sense life is thus but a prolonged partial suicide, to use an expression which Peter recently made use of.

If it be a commonplace to say that to labour, the living being must burn organic matter as the steam engine burns coke or coal, it is clear that in the one case as in the other, waste, ashes, and ponogenes ought incessantly to produce themselves. No more in the living machine than in the other can these ashes accumulate without inconvenience, as they tend to the detriment of the tissues in taking the place which the new utilised elements ought to occupy. But there is more than this, the cellular scoria is probably injurious in another way. Besides positively encumbering, they may in their turn act on the vital phenomena.

We have no difficulty, then, in conceiving that the animal machine cannot continue to work if it does not disencumber itself of its waste and its ashes, and if it does not procure fresh combustibles; the elimination of ponogenes and organic reparation appear to us as the indispensable corollaries of work. It is possible, especially when the activity is intense, that these two functions may be accomplished less quickly than the inverse phenomena, and the organism invaded at the end of a certain time by its overwaste may find itself incapable of continuing to work until it can be purified by rest. And here, to begin with one cause of alternations more or less regular, we foresee that phases of activity and repose must necessarily in turn succeed each other. It is, moreover, no other than a manifestation of the character which discovers itself in all movement: rhythm.

But if general considerations permit us to understand the necessity of repose, they are insufficient to explain to us the mechanism of sleep. This phenomenon signifies something more than the functional incapacity. It is eminently a question of a nervous order. All cellular waste, every ponogenic body is not actively somniferous. It requires for that: (1) That this body should operate in a special manner upon the superior nerve cells; (2) That it suspend this activity for a time.

Do we know any substances possessing these properties? Undoubtedly; ether, chloroform, hydrate of chloral, and in eminent degree the alkaloids which are narcotic: morphia, narcein, etc.

And if now we pass in review the products fabricated by the organism, there is certainly none of them which will better satisfy us than the leucomaines under the conditions which we have just theoretically indicated.

The study of the leucomaines is scarcely as yet begun, but an analogy which seems interesting is already evident. According to Gautier, the great part of the leucomaines, as well as of the ptomaines are very oxidizable, and morphia is precisely that which makes itself observed by reason of its great oxidizability. Bettink and Van Dissel assure us also, that out of forty-two vegetable alkaloids tested by them, morphia alone divides with the ptomaines the property of forming Prussian blue, by reduction of the perchloride of iron and ferricyanide, and that notwithstanding the presence of an oxidant so powerful as chromic anhydride.

It may be asked, in what way do leucomaines act upon the nerve cells. Is it directly or indirectly in the taking up of oxygen, as Preyer supposed, as regards his ponogenes? It would be premature to wish to settle definitely the question, but in the actual state of the question the first hypothesis appears much the more probable. If we take as terms of comparison the vegetable alkaloids, no one will be likely to suppose that morphia brings on sleep by the subtraction of oxygen; for one centigramme of a salt of morphia, a sufficient quantity of itself to cause sleep, does not require for its complete oxidation more than two centigrammes of oxygen—say, less than the eightieth of what we inhale every minute. Again, we do not know what quantity of each leucomaine is necessary to occasion fatigue and somnolence, of which Gautier speaks, but the quantity is certainly small. The moment, moreover, one comes to think how little abundant the leucomaines are in the normal organism, it becomes difficult, if not impossible, to attribute sleep to the privation of oxygen, which may result from their oxidation. Another fact also makes against the theory of sleep by anoxia, it is that many oxidants—halogenium, ozone, oxygenised water —are narcotic. There are, on the contrary, good reasons in favour of a direct action of leucomaines on the brain. Rossbach has seen that many vegetable alkaloids, morphia, quinine, atropia, veratria, strychnine, modify the albuminoidal matters, such as the white of egg, the serum of the blood, the muscular juice, and that by augmenting their coagulability, the albuminoidal precipitate thus obtained preserves always a certain quantity of alkaloid even after prolonged washing. This precipitate excercises no coagulating action upon the white of egg when dissolved, and Rossbach thence concludes that the alkaloids must be in chemical combination with the precipitated albuminoidal matter. Binz tells us that soporifics, such as morphia, chloral, chloroform, and ether put into contact with the grey substance, renders it morbid. This is the sign of a species of coagulation which other non-soporific bodies would not occasion: atropine, caseine, chlorox-alethylin, camphor, pyrogallic acid. Claude Bernard was also of opinion, at least as regards ether, that anæsthesia is caused by a sort of coagulation. Let us observe that muscular fatigue could no longer be attributed, as Ranke thought, to a monopolizing of the oxygen by the products of contraction, but much rather to a direct influence of the acids formed; for the phosphate acid of soda, which is not oxidizable, absolutely "fatigues" the muscle just as lactic acid does. Leucomaines might, again, act indirectly in another manner by modifying the cerebral circulation. It is an hypothesis which has already been put forth to explain the action of narcotics, and in this way the vaso-motor theory of sleep is arrived at. But such opinion seems contradicted by the direct observations of Binz. Upon a dog and rabbits when trepanned, he saw that anæmia of the cerebral surface only supervened slowly in the complete state of sleep. "Anæmia is then in this case a consequence of sleep, and not sleep the consequence of anæmia." The author adds, after having recalled the case of the alimentary canal, which is pale and bloodless during a state of fasting, and filled abundantly with blood during digestion: "Cerebral anæmia in prolonged narcosis is in harmony with this general rule, that the flow of blood towards the organs diminishes when they are at rest."

The influence of ponogenes may then probably be summed up in these terms: not anoxia, not anæmia, but direct intoxication. A theory of sleep ought to account for the normal linking together of these three things: work, fatigue, and sleep. It is easy to see that the toxic theory satisfies this condition. All work, whether it be muscular or cerebral, engenders loss of material. This by deterioration renders the continuation of labour painful: this is fatigue. Finally, the waste debris, and notably the leucomaines, finish by intoxicating the superior nerve centres (as morphia would) to the extent of inaction: this is sleep. There we have the phenomena reduced to their most simple expression. But a mass of accessory circumstances arise to complicate the consideration of the question. The most important it is necessary to note. First of all the living being struggles incessantly against this intoxication by which he is menaced. It seeks to disencumber itself of its refuse material; the circulation drains them off; respiration and secretions expel them; the liver, it seems, arrests or destroys one portion of them. And the more intense the labour is the more do all these functions become active: the circulation increases, washing and cleansing the organs; the respiration, accelerated, eliminates more carbonic acid; the emission of urine is often augmented; perspiration makes its appearance, refreshing the organism, and taking away from it, moreover, a small quantity of refuse products, such as urea and creatin. These multiple depurations enable the organism to maintain activity for a certain time, but not indefinitely. Why so?

If, by an excess of work, certain of our organs have destroyed all their utilizable materials, and are encumbered by ponogenes, it is clear that these organs are, until a new order, incapable of working again. But we do not arrive under the ordinary conditions at this extreme degree of exhaustion, and it is even doubtful whether we ever do arrive at it. It is a fact that the sensation of fatigue has already become invincible, before the physical, the real fatigue, has attained its ultimate or extreme limits. The ponogenes operate, not only upon these organs where they have begun their existence, but even upon the nervous extremities which border on these organs and upon the centre themselves. To this triple influence of the ponogenes three significations of the word "fatigue" correspond. In effect, there is room to distinguish between the true fatigue of the muscular fibres of the arm, for example, which is measured by the diminution of their excitability, the fatigue which is subjective, which we feel locally in this arm; and

the general sensation of fatigue lassitude which explains itself by the desire of sleeping. After having lifted for some time a weight, we may experience an intense fatigue in the arm, but no need of sleep, whilst we may fall, as they say, asleep, without experiencing any considerable local fatigue. Of these two sensations, one is peripheric, the other is central. It is this latter which interests us the most, and it is its genesis that it behoves us to study most clearly.

Cerebral activity, such as manifests itself during the state of wakefulness, is connected with reactions of a chemical nature, with discharges which occur in this eminently explosive matter of the protoplasm of the nerve-cells, and the gray cortex. Now, among the ponogenes constantly engendered within the different organs which are in operation, we know that there are narcotic compounds, comparable to alkaloids. In all probability these bodies have a particular affinity for the nervous cortical cellule; in any case they act upon it, they modify it, they fix themselves there more or less steadfastly. Their elimination by the enunctories, as already mentioned, will never be other than partial; whilst one portion will be drained by the secretions, another will possibly be undergoing destruction by oxidation, a third will be retained within the brain. It is believed that the nerve centres, thus modified, perform with less and less facility their function of explosion, and it will require excitements more and more vigorous to maintain the condition of wakefulness; after a certain stage our movments become tardy, our sensations become blunted, our thoughts are clogged, in a word, we feel ourselves fatigued. There comes at length a movement in which the ordinary excitements are no longer sufficient to permit the explosion of the cerebral protoplasm, its activity is provisionally suspended; we sleep. By this theory, it is obvious that the ponogenes only operate on those of the nerve-cells into which they penetrate. This localised action explains to us what we may call "partial slumbers." The profoundest sleep, says Exner, with reason, is connected with insensible transitions with perfect wakefulness. If one is very circumspect whilst falling asleep, it may be remarked that the circle of ideas with which one is occupied is more and more contracted. We can say that certain groups of ideas still are wakeful, whilst that others are already subject to sleep. The cells of the organism fall asleep one by one, even as they die one by one, following a hierarchical order. Whilst admitting a great latitude for the intervention of accessory causes, we foresee, nevertheless, that the most elevated of the centres are in general the first to become drowsy, then sleep overtakes by degrees the inferior centres.

These remarks explain in a certain measure the phenomena of somnambulism; for Jean Müller has already shown that the question there is one of partial sleep. On the other hand, certain superior centres, the first asleep, are capable of awaking themselves separately or in groups. Perhaps one may come by this means to understand the variety and the want of connection in dreams, and painful nightmares, during which we endeavour to perform a movement, and feel ourselves restrained: here the motive centres would be asleep, whilst certain intellectual centres would be awake. In somnambulism, on the contrary, it would be the motive centres which were awakened, and the intellectual centres that continued asleep. Contrary to Preyer, Errard is led to regard the somniferous action of the ponogenes as direct, and not as the indirect result of a subtraction of oxygen. The reasons have been stated. However, the oxidizability of the leucomaines should also to be taken into account, and in place of being the cause of sleep, it explains according to this view the cessation of it.

If the accumulation of a certain quantity of leucomaines within the ganglionary cells brings on fatigue—then sleep, sound and refreshing, which accompanies it, must be due to the disappearance of the leucomaines. Have they been simply removed by the circulation, or are they destroyed? Both factors might intervene; but since it is probable that the leucomaines are chemically retained in the cerebral nerves, as were the alkaloids in the experiments of Rossbach, the mere blood-washing would not remove them except with difficulty; and since from other sources we have a knowledge that they are oxidizable, it is natural to think that the oxygen whose oxidizing power still being exercised in the living organism, attacks them and burns them little by little. Does this only take place during sleep? There is no reason for thinking so. The accumulations of leucomaines during the state of wakefulness does not prove that their production is suspended. It signifies only that the production is then in excess of the oxidation and elimination united, which is only very plausible. During the condition of waking, the activity of the organs continually engenders new quantities of them; during sleep the production is, if any at all, at least very much reduced, for the muscles are in repose, the pulsation becomes lessened, many secretions are diminished, respiration is diminished, the brain is out of gear. Now, the normal adult taking as near as may be about eight hours of sleep as against sixteen of waking, we might conclude that the ponogenes are formed on an average, during waking, one and a half sooner than they oxidize and eliminate themselves. It is useless to add that here a mass of factors are overlooked, and that this figure represents only a crude approximation. As there is no reason to admit that the products of oxidation of the leucomaines can have, like them, a special affinity for the protoplasm of the grey substance, we conceive their being immediately swept away in the circulatory current. The nerve-cell therefore is cleansed, it becomes again accessible to impressions from without, and a slight exciting cause suffices to bring about waking. But this is not the whole. Sleep does not consist alone in the elimination of ponogenic matter. That is only one phase of things, and we have already said that we must regard also the organic reparation. Side by side with the cleansing there is the reparation. When once the leucomaines have invaded and paralysed the cortical cells, all the organism is relieved of the tyranny of the brain, and each tissue is capable of restoring itself tranquilly by inmost nutrition. Thus we understand that one rises up in the morning, not only freed from his fatigue, but again armed with strength for new activity, and that sleep, even when artificial, may be beneficial. "He who sleeps, dines." As regards the amount, the quantity of leucomaines contained in the organism is doubtless subject to continual variations; it increases or lessens according as the productive phenomena of the dissimilation preponderate. We see, then, that an increase of work may be capable of leading to a decrease of fatigue, if this work increases at the same time and in a stronger proportion, the oxidation and expulsion of the waste. Perhaps there we have one of the causes why exercise in the open air is so healthy. At other times the decrease of fatigue is only apparent. In proportion as a great weariness takes hold upon, as the cells which intervene in conscious perception

terminate by being exhausted in their turn, consciousness becomes more and more obscure, and fatigue in so far as regards the sensation experienced by the patient may diminish thus, because of the excess even of work. It may happen, as regards an opposite cause, that the beginning of rest, far from resting us, augments the subjective fatigue. But this kind of phenomena recognizes another explanation, about which we shall say a few words.

In the present day it is scarcely to be doubted that certain chemical decompositions of the molecules of the nervous protoplasm are the condition of cerebral activity. From all that precedes we are led to attribute sleep also to a chemical reaction between this protoplasm and the leucomaines. Now in virtue of principles of mechanics, it is in general more difficult to impress on a body a determinate form of vibrations when it is already vibrating. Without quitting the domain of physiological chemistry, Nageli has shown that the existence of fermentation hinders more or less completely a different fermentation from establishing itself in the same medium. If we apply the like idea to the ganglionary cells, a mass of facts which are familiar to us become at once intelligible. In normal life we are conscious of no fatigue during the greater portion of the day, because the cerebral protoplasm defends itself against the ponogenes by its very activity, and it is only towards evening, when the army of the ponogenes is become more formidable, that the nerve centres commence to become feeble. One may up to a certain point struggle against fatigue, or betake oneself to repose; the vigorous and varied sort of excitements retard sleep, whilst tranquility, monotony, inaction, *ennui*, and silence are favourable to it. Immediately that the nerve-cells give way before the enemy, they lessen their activity, the leucomaines invade them with more and more facility; first fatigue, then sleep, supervenes. Fatigue appears to us, from this point of view, like a conflict between the activity of the protoplasm and the invasion of the waste matter; and sleep is the temporary victory of the waste matter over the protoplasm.

These observations give the key to a phenomenon that, at first sight, might seem to be opposed to our theory, and it is this:—Although the formation of narcotic substances goes on all day, the passage from wakefulness to sleep is usually rapid enough. Our day of work has but little twilight.

This leads us to a delicate question, and one which as yet is very little studied—the soundness of sleep. Let us try to enter upon it. In our theory the soundness of sleep must be in proportion, at every moment, to the number of the molecules of the cortical centres, which are in combination with the leucomaines. At the beginning of sleep, everything facilitates the arrival of the leucomaines; they are relatively in abundance in the organism, and the central cells being inactive, leaves them free entry. Thus sleep becomes soon more and more profound, soon the maximum is attained, and all the stock of leucomaines is combined. But during this time the destruction and the elimination of leucomaines have continued going on more actively in proportion as the grey substance appeared to be a favourable medium of oxidation; a portion then of the leucomaines will be constantly destroyed within the brain, and the intensity of the sleep will not take long to decrease, but that with a decreasing rapidity, seeing that oxidation takes place on less and still less quantities of leucomaines.

Experiment agrees very satisfactorily with these deductions. Kohlschutter determined, from half-hour to half-hour, the soundness of sleep in the case of the same individual, in accordance with the intensity of sound necessary to excite the awakening. In spite of the sources of error in a similar proceeding, the following results might, according to Exner, be regarded as established. The intensity of sleep increases promptly during the first hour; then it decreases, at first in a rather rapid fashion, and then more and more slowly until the awaking up. Kohlschutter has given us a curve which indicates these variations; a thing of some interest, and, as we may foresee, the form of this curve remains the same, whatever may be the intensity of the sleep absolutely. It applies as well to sleep produced by a slight degree of alcoholic intoxication as to normal sleep.

In forming a suitable hypothesis as to the proportion of leucomaines which are being continually oxidized our theory would furnish a curve of the same kind.

An observation of Brever, which it is easy for one to repeat on himself, deserves here to be mentioned. We often go to sleep whilst passing through oscillations of consciousness and of unconsciousness more or less distinct. The fact seems sufficiently explicable. At the precise moment at which we lose consciousness of what surrounds us, the least diminution in the flow of the leucomaines towards the brain may permit the protoplasm to escape sufficiently their action for consciousness to return; but, the flow again augmented, consciousness vanishes anew, and so continues until the reign of sleep be definitely established.

If this theory of sleep be correct, it may be asked whether there may not be counter-poisons, antidotes of our ponogenes which are soporific—ponolytes, if you will—which might counteract the fatiguing action of the products of activity. Why not? Grutzner and Gscheidlen have established that remedial substances are formed inside of the muscle by the effect of contraction; and reciprocally, it appears, according to Kronecker, that the oxidants, such as the permanganate of potash, in very feeble solution, returns to the fatigued muscle its excitability and strength. We likewise know that the leucomaines are oxidizable, and it is probable that one might destroy them by means of oxidants. Yawning, that deep inspiration of the tired man, might its purpose not be that of furnishing him with a precise increase of oxygen?

But, besides the oxidants, it might be possible to discover veritable antidotes to the narcotic leucomaines. For example, alkaloids antagonistic to these substances, as atropine is antagonistic to pilocarpine; coffee, which wakes up the brain; coca, which suppresses, they say, during several days, hunger and fatigue, are perhaps of the number. We must frankly add, however, that if a pharmaceutic product happen to eliminate fatigue artificially, that does not imply that it procures by the same time organic restoration—the restorative effect of a good sleep.

It would be well to guard against explaining too many things by alkaloids, and, according to the saying of Guerin, "after having abused the microbes let us endeavour to avoid abusing the ptomaines." But it is just to remark that if Selmi has seen all the importance of animals, alkaloids, as regards forensic medicine, if Gautier, Bouchard, and others have indicated their *rôle* in the genesis of diseases, their important place in normal physiology still remains, to a larger extent, a virgin study, and one which promises fresh harvests in discoveries. Already we catch a sort of glimpse

that inebriation from work, inebriation from success, inebriation from love, might well cease to be mere metaphors, and range themselves with the action of different toxics upon our nerve centres. Errard hopes to have shown the probability that fatigue is, in the proper sense of the word, an intoxication, of which sleep is the normal antidote. Who knows whether many physiological acts (respiration, movements of the heart, micturition, defecation) may not be like sleep dependent on specific bodies, acting, be it on the nerve-centres or upon the peripheral organs? Organic rhythm would be due to the fact that a given physiological act engenders substances, which tend to provoke the contrary act, just as the descent of the pendulum provides the necessary power to cause it to rise again. A very recent work by Zuntz and Geppert concludes that over and above the holder of the blood in oxygen and in carbonic acid, there is yet a particular and unknown substance produced, and chiefly by the muscular activity, which normally intervenes to regulate the respiratory movements.

Errard, in conclusion, sums up the theory of sleep into a few lines: "The activity of all the tissues and in the first line of the two most active, which are the nervous tissues and the muscular tissues engenders bodies more or less analogous to alkaloids, the leucomaines. These leucomaines are productive of fatigue, and are narcotic. These leucomaines, then, must at length occasion fatigue, and bring on sleep. On awaking, if the organism be in a state of repose, it is because these bodies have disappeared. Therefore, in that case, they are destroyed and eliminated during normal sleep, the restorer." All this appears logically indisputable; but it pertains to direct experiment to furnish the proofs where we as yet have only arguments. The quantity of leucomaines, their presence in the brain, the more complete study of their physiological properties are the first problems which will offer themselves for solution.

It may be asked whether the leucomaines of Gautier have so close an affinity to the ptomaines and the alkaloids, properly so-called, as that author asserts. There is here a question of degree which admits of difference of opinion. What appears to be established by his researches, is the very general formation of organic alkaloids in living beings, many of which possess narcotic properties. There we have all that is necessary to serve as a starting-point for the toxic theory of sleep, such as we understand it.

EXPLANATORY NOTES TO DR. KEYES' INVESTIGATION OF ELECTROLYSIS.

By C. R. Dickson, M.D., Kingston (Ont.), Canada.

[Communicated by Dr. Steavenson; received by him from Dr. Robert Newman, of New York.]

In the issue of this journal of November last, appeared an abstract of a paper read before the American Association of Genito-urinary Surgeons, at its second annual meeting, entitled "The Curability of Urethral Stricture by Electricity —An Investigation;" by E. L. Keyes, M.D. I was glad that the paper appeared, as it will serve to demonstrate that electricity may fail even in the hands of one of the most skilled of genito-urinary surgeons, for most certainly that is all that it proves. When a few more such results shall have been given to the expectant profession, the fact will at last dawn upon it that electricity is not the simple, harmless panacea that many of its advocates would have us believe; but on the contrary requires in its successful application, rare tact, judgment, and skill, combined with a mature acquaintance with its fundimental laws, such as is gained only by plodding, earnest, patient study of it in all its forms, and by experiment in which common sense and physiology have a hearing (for instance he should not expect the aorta of a dead sheep placed upon a piece of beef to play the rôle of an urethral stricture in the living man, as was quite recently reported).

Having made this discovery—too late, alas, in many cases —the general practitioner as well as specialist, be he genital, or urinary, or both, or neither, will, if wise, do one of two things, either settle down to study, or which is the better or at least safer method—let electricity severely alone, and send suitable cases to be treated by those who already understand the subject and are known to be successful in the treatment of such cases. To the student, as yet unprejudiced, belongs the golden opportunity, let him insist on practical instruction on the subject by competent teachers, and any labour he may expend on this most attractive branch of therapeutics and surgery will be amply rewarded, and he at least will appreciate and quite understand the removal of adventitious material by sloughing and by absorption. But I wish to call attention to the rather unfair use of cases 8 and 9; the criticism of the remainder of the article, I leave to others should they consider it worth their time.

While in New York a short time ago on electrical business, my friend, Dr. Robert Newman, kindly permitted me to see Dr. Keyes' letter to him in reference to case 8, J. D., and copies of his replies, all of which I read carefully and noted, and now propose to give the gist of. Neither of us had seen the complete paper at that time but only a synopsis of it in the "*Medical Record*."

On January 10th, 1888, Dr. Keyes writes that he is much interested by Dr. Newman's report; expresses a desire to investigate; asks for information to his assistant; and as to where Dr. Newman's electrodes could be obtained. Later, January 21st, he mentions the Mallez-Tripier incident—or more correctly accident—says he is incredulous, but "whatever the result may be I shall give it to the world without fear, simply stating what I conclude after properly investigating," stating that he has instruments ready, and some dispensary cases. He proposes to send one case to Dr. Newman, having first examined, and will examine it again *after Dr. Newman pronounces it cured*, if allowed (italics mine). Then J. D. is sent with Dr. Keyes' assistant, and Dr. Newman having stated that the case is not a favourable one on account of a previous surgical interference, Dr. Keyes writes on February 6th: "Dont let us go on with the D—— case unless you are willing to abide by the result;" and offers to "look up another case," to which Dr. Newman replies on the 8th: "I do not understand what you mean by saying I should be willing to abide by the D—— case. I am sure the D—— case will come out all right if the man does what I tell him." "But I attend the D—— case for your pleasure, and not as an investigation; on the other hand I can refer you to many physicians who have seen patients before electrolysis, and examined years after cure and found that no relapse had taken place." But that would be foreign to an *investigation*. On February 20th, Dr. Keyes repeats his question, "I ask you (and still ask) whether you are willing to accept D—— as a test case, etc.," and on the same day

Dr. Newman answered, "I expect that electrolysis will cure the stricture of D—— even if the case were worse. But I cannot agree to have this *one* patient put up as a test case, when I have hundreds to show and can verify the results 'without relapse,' by reliable physicians who have examined and re-examined these patients." Dr. Newman also expressed a readiness to call on Dr. Keyes and give proofs and statistics. A report having been asked for on June 26th, as Dr. Keyes is about to sail for Europe, Dr. Newman replies two days later, "I take pleasure to state the present state of D—— whom you sent to me for treatment for, as you expressed it, 'double linear stricture at $4\frac{1}{2}$ inches.' At the present time this stricture has entirely disappeared. Nevertheless, the patient is not well, or cured. I found on examination when D—— first came to me, a second stricture at $5\frac{1}{4}$ inches from the meatus, as also contracture of the bladder which propelled the sound, and sometimes caused such spasm that no instrument would pass beyond six inches. There is much irritation and discharge of mucus, pus and blood from the urethra. This second stricture is improved, so that No. 25, Fr. will pass, but the ring constricting the stricture can be felt distinctly, and is not cured at the present time. For the spasm of the bladder he has not received any treatment, and the galvanic current will certainly never cure spasmodic action of the bladder and urethra. I now propose to treat D—— for the latter trouble during the hot season, taking time and report to you later *in extenso*." But this would not suit the *investigation* either, as Dr. Keyes hastens to say on July 23rd: "Will you allow me to ask you not to give D—— any further treatment, that I may have an opportunity to examine him again in the autumn, in order to determine his ultimate condition." To this Dr. Newman naturally objects on July 28th. "I wish to call your attention again to my former letter of 28th of June, in which I said that the case is not cured, and again, that I did not treat the case with its complications but only the stricture as desired. And further, as I have not the patient under my sole control, even did not know his residence or whereabouts, the result is not as favourable nor cured as I desired to see it. Please take such circumstances into consideration."

On Sept. 4th, Dr. Keyes writes that he has just returned, and proposes to say all he knows about electrolysis in stricture at Washington Congress, and after examining D—— will add that to the paper, and on the 15th continues, "I have examined D—— and find recontraction of stricture being at $4\frac{1}{2}$ inches. I cannot find that any improvement has followed the use of electricity, and on close questioning I learn that his stricture area never has been cut (as he allowed me to suppose) but that the cutting had been a meatotomy. Under these circumstances I see no escape from reporting the case as a failure!!! it seems to me to demonstrate that electricity has signally failed in removing organic stricture in this case."

The last communication is Dr. Newman's reply of Sept. 15th. "In your favour received yesterday you say that the D—— case is a proof of failure of electrolysis, and that you will report it as such. I certainly will, and must protest against such an action as very unfair, as I did already on my visit to you. I have very good reasons for my protest, among which is, D—— was not dismissed by me as cured, but on the contrary withdrawn by you, and thereby any probability of a cure prevented. I am so certain of the efficacy of electrolysis in urethral stricture, that for public good I am ready to demonstrate the success at anytime if such trial is conducted impartially and in good faith." This certainly seems fair enough, and speaks for itself, requiring no comment.

At the personal interview alluded to, Dr. Newman tells me he also objected to case 9, E.S.E. being reported, as Dr. Keyes knew that the patient was badly treated by a physician in Brooklyn, who used electricity in a wrong manner. Later E came to Dr. Newman who refused to treat him; on the patient asking for the direction of a respectable surgeon, if Dr. Newman did not wish to treat him, he was sent to Dr. Keyes.

But Dr. Keyes' plan cannot be interfered with, he cannot well re-write his paper he tells Dr. Newman, but may state verbally that he has seen him. The chance of having a fling at electrolysis is too good a one to miss, and Dr. Newman's many friends at home and abroad must have the news brought back to them that the "Apostle of the Creed" is an impostor, that they themselves have been dreaming, their confidence "due either to the combined credulity of the patient and imagination of the surgeon, or to some special but fortuitous act of Providence, upon the co-operation of which in the case of his own patients, the general practitioner cannot with any confidence rely." And thus the benefactor of his deluded brethren recalls the foolish ones from the hypnotism under which the wicked Dr. Newman has laid them, and if they have not already done so, they will at once read the article recommended by Dr. Keyes in the July and August numbers of the Journal of his speciality, then will turn back to the editorial in the *New England Medical Monthly* for December, 1887, to remind them of how many like themselves thought all along that they had been curing strictures when they really were quite mistaken. Further, our papers will be filled with recantations from Drs. J. H. Kelley, of Battle Creek, J. H. Burchard, of New York, J. J. Berry, Portsmouth, N.H., and a host of others. Of course Dr. Newman is too hardened, no hope for him, he will doubtless remain an outcast from the realms of orthodox surgery of the urethra. But across the pond, F. Swinford Edwards, F.R.C.S., London, will doubtless hasten to inform us that his communication in the *Medical Press and Circular* of April 11th, 1888, was misleading, and all his favourable cases have relapsed since reporting. And the foolhardy practitioner who asks for urethral electrodes at the instrument dealer's, will be withered with a glance of scorn, referred to a museum, and offered an improved urethrotome, on three months' trial and easy payments, with a liberal discount for cash.

But joking aside—for stricture is no joke—why not have the demonstration offered by Dr. Newman? Its success or failure would do more than anything else—including investigations—to fix the status and scope of electricity in urethral troubles, and save a great deal of valuable time and printer's ink, only taking care to first agree on three points:—

1. What constitutes a normal urethra?
2. What constitutes a stricture? and
3. What constitutes a cure?

It is not greatly to our credit as a progressive profession that, while in the commercial world such advantage has been taken of the rapid strides of electricity as a science with fixed laws, so many of our members look upon it with discredit, and call its advocates "cranks," or perchance try it only to fail.

PARTIAL EXCISION OF HUGE LYMPHANGIOMA OF LEG.

By Robert Jones,

HONORARY SURGEON, LIVERPOOL STANLEY HOSPITAL.

This patient was sent to me in April, 1886. She was then twenty-seven years old; had been married six years, and had two children. She was prevented from walking by an immense tumour, extending from the lower and back part of the thigh to the heel. When she stood it rested on the ground; when she moved it trailed after her.

The growth presented the following clinical characters:—In the widest part, about four inches below the knee, it measured forty-three inches; the narrowest part, just above the malleoli, it measured nineteen inches. It presented a brawny varicose skin, involving five-sixths of the circumference of the limb, so that only a narrow strip of healthy skin remained in front of the tibia, patella, and quadriceps. The colour varied from a cholocate tinge to glistening white stripes, due to distended skin. On grasping the mass a brawny sensation, similar to thrombosed veins, was elicited. Here and there one noted a soft cavernous feeling as if fluid were pressed from one cavity to another, and in places there existed distinct fluctuation. A white fluid exuded from an ulcerated patch situated

FIG. 1.

opposite the tendo-Achilles. Patient had probably been affected for, at least, seventeen years. Her mother, when bathing her, noticed that one leg was thicker than the other, but did not remember noting any surface change. There was no family history bearing upon the case, the stock being purely English. At the age of twenty-four the tumour was extremely painful, becoming more so with each suceeding year, until, to use her own phrase, "life became a burden" to her.

The question of treatment was an interesting one. Complete excision was out of the question, because of the absence of healthy skin. I favoured partial excision in the belief that (*a*) the growth would be arrested; (*b*) that the immediate mechanical discomfort would be removed; and (*c*) that the ulcerated patch would cease to trouble. Other surgeons, however, strongly favoured amputation through the thigh, on the ground that (1) a partial excision was patchy; (2) that the risk from hæmorrhage would be alarming; and (3) that flaps necessarily composed of implicated structure would fail to unite. This last reason, which seemed the most plausible, was discountenanced by two facts which I noticed elsewhere—viz., that in spontaneous fracture, due to malignant disease, the bones re-united; and in a case of epithelioma of face, where I performed a partial excision, early union of the malignant flaps occurred. Regarding amputation, the patient was even more decided than I was.

There was nothing remarkable about the operation, excepting very alarming bleeding, thirty or forty large arteries being cut through, which were however speedily secured. The naked-eye appearance of the mass, which weighed five pounds four ounces, consisted in a glistening whitish surface, plentifully dotted with minute loculi, out of which lymph could be compressed. The subsequent progress has been highly satisfactory. In a week the wound was united, with the exception of troublesome corners at top and bottom, which persisted for many weeks. The temperature never quite reached 101, and after the ninth day was normal. She has no pain now; can do any amount of work; does not complain of fatigue; and walks without a limp. Although it is now nearly three years since the operation, the leg has not started to increase in size.

Dr. Barron has kindly supplied me with the following aspect of its microscopic characters, as shown in fig. 2. "The

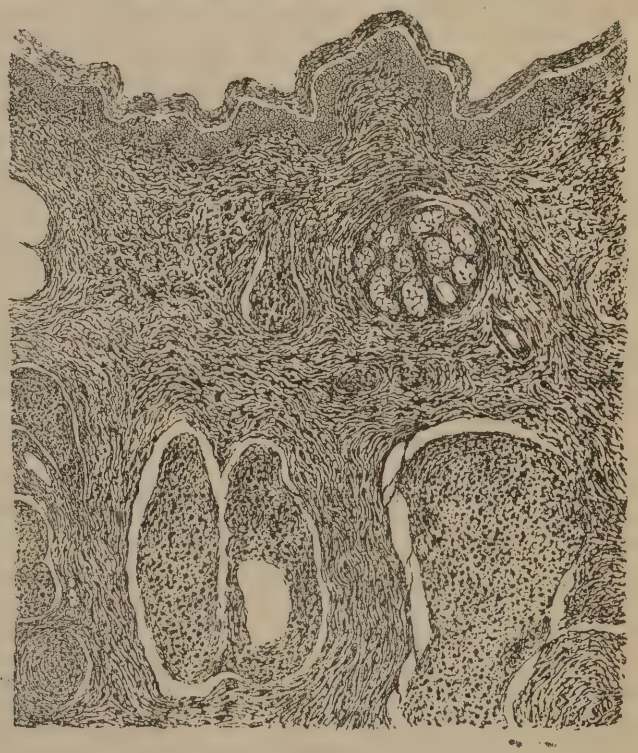


FIG. 2.

skin forming the surface of the tumour is thickened, and the cells of the rete appear large and swollen. The hairs are hypertrophied, and the sweat glands somewhat enlarged and elongated. Both the skin and subcutaneous tissues are full of dilated and somewhat sacculated lymphatics, many of which are blocked by organising thrombi. In some places this process appears to have gone on to the final production of a juicy connective tissue, rich in cells and infiltrated with leucocytes. The process appears to advance chiefly by the formation of lymph clots in the vessel subsequent to organisation."

AN ENQUIRY INTO THE CURRENT THEORIES OF THE CAUSES AND NATURE OF ACUTE RHEUMATISM, AND THE TREATMENT GENERALLY ADOPTED FOR ITS CURE.

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IT may be stated with safety, and even advanced as a truism, that in the study of disease in general, and of acute rheumatism in particular, it is of the highest importance to have a clear conception of the causes, proximate or remote, which may give rise to the cycle of morbid phenomena known by that name; as, upon this estimate, whether well or illfounded, will materially depend the indications for treatment of the special disorder.

It is indeed a subject of regret, that the theories prevalent regarding the etiology and pathology of rheumatic fever should be characterised by so much inexactness and uncertainty; the dicta of our leading authorities are too often contradictory and misleading. What is regarded to-day as an exploded hypothesis, is frequently accepted on the morrow as a theory beyond cavil; while some writers of eminence and position do not hesitate to avow that, although based on observations of comparatively trivial importance and limited extent, they willingly accept as orthodox, a previously discarded, theory of causation. Although, indeed, it is the undoubted privilege of every student of medical science to speculate freely on the intimate nature and relations of functional or organic disease, and to formulate to his satisfaction a rational hypothesis in accordance with his observation; it may be well for all of us to profit by the prudent maxim of Haynes Walshe: "That false theory must be worse than no theory at all in a sphere of knowledge where speculation entails action, where the practice of an art flows from the doctrine of a science;"[1] and thus the wise practitioner might often be justified in preferring the guidance of an enlightened empiricism rather than the suggestions of an hypothesis however attractive or conclusive it might appear.

While the current of medical opinion has for many years set strongly in the direction of solidism, or the localisation of disease, as opposed to the humoral pathology, and in more recent days in that of the neurotic origin of most disorders, acute rheumatism included; yet, a large number of theorists, in the words of Senator,[2] "look for the noxious principle (of polyarthritis) in some alteration of the blood and humours, more especially the abnormal development of an acid, and lactic acid has actually been specified as the cause of the morbid phenomena; while another class, with Pfeuffer and Hueter, regard endocarditis as the primary change, and articular disorder as a consequence resulting from embolism, by particles of extreme minuteness being washed off from the endocardium of the left ventricle." Some writers uphold the doctrine of the malarial or miasmatic; others the germ theory of causation; the infective and the nervous have also their advocates, who attribute to the effects of a chill the initial disturbance of the system, followed by fever, pain, and arthritic disorder, through the agency of the vaso-motor and trophic nerves, with the possible entrance of micrococci into the blood.

[1] My own theory is that acute rheumatism is essentially a specific form of endocarditis, of neuropathic origin generally allied with myocarditis; that in its unchecked progress it speedily modifies the composition of the blood, the innervation and calorification of the body, in its ordinary course giving rise to lesions in the textures, the joints, the pericardium, the pleura, the neurilemma, the meninges of the brain, in fine, in any organ accessible to nervous or arterial influence. I consider the exciting cause be a chill, and that the morbific effect is produced through the agency of the nervous system. The ordinary so-called essential symptoms, the calor, rubor, tumour, and dolor of the ancient writers; the fever, pain, sweating and muddy urine, are but the usual accompaniments, though in a less degree, of sthenic inflammation in any important organ, such as the pleura, and these subside most generally in my experience when the tension on the cardiac centre is relieved.

I feel that it is not incumbent on me to notice in detail the patent objections that apply to the miasmatic, malarial, or germ theories, such authorities as Basham, Garrod, and Fuller, discountenance them; and these views are only entertained by specialists unimportant in number, and are unsustained by clinical observation. It may be stated, however, that no one has so far given proof of the existence of any special germ, or microbe, *always* present in the blood of the rheumatic patient.[2] And although much may be advanced in favour of the neurotic theory through the intimate connection that subsists between the nervous system and the processes of nutrition and secretion; neither have the neuro-pathologists as yet been able to establish on a sure basis the truth of their contention, nor have they in conformity with their convictions formulated any special system of treatment for its cure. I prefer to enquire upon what grounds the more numerous advocates of the chemical or lactic acid hypothesis endeavour to sustain their teaching, and to what extent, if any, they are justified by the results of observation and experience. Doubtless if great names sufficed for its establishment, such authorities as Prout, Todd, Basham, Sibson, and others, would amply supply the desideratum.

In the first place we may assert that to designate an excess of acid in the blood as the pathogenic factor of acute rheumatism, and to prescribe an alkali as its antidote is but to revive the old chemical theory of disease, when every ailment was attributed to an acid or alkaline condition of the blood, and when the remedy chosen was that most likely to neutralise the supposed abnormal departure, as Senator writes:—"Authors have occasionally recommended *alkalies* from an early period on theoretical grounds—viz., in order to antagonise the abnormal production of acid supposed to go on during rheumarthritis."[3] Formerly the adherents of the *materies morbi*, or chemical theory, were wont to adduce as conclusive evidence the constancy of premonitary fever, the symmetrical distribution of its

[1] Address in Medicine, *British Medical Journal*, August 9th, 1862.

[2] "Ziemssen Cyclopœdia," vol. xvi., article "Polyarthritis Rheumatica Acuta," p. 26.

[1] *Dublin Journal of Medical Science*, October, 1881, and Robert's "Theory and Practice of Medicine," article, "Acute Articular Rheumatism."

[2] Topoff indeed (Meditz Pribav.) states that he has discovered, and isoluted the pathogenic microbe of acute rheumatism in the blood of a rhematic patient; and *post-mortem* in the synovial fluid from inflamed joints and in the heart, and that the injection of the cultures into the external jugular vein of two rabbits, gave rise to acute articular rheumatism, with pericarditis and endocarditis; but, further confirmatory experiments are necessary to establish the fact as a law in the etiology of the disease.

[3] *Op. cit.*, p. 61.

lesions, the phenomena of metastasis, and the wide-spread signs and symptoms of acute rheumatism, and thence to infer its constitutional or hæmic origin; but this favourite argument is now urged by the neuro-pathologists as well, and even Senator appeals to the symmetrical distribution of its lesions as a proof of the nervous origin of rheumatic arthritis. They also relied, as confirmatory evidence, on the favourable results often apparent after the administration of alkalies, such as the salts of potassium, the natural antidotes of acids, whether within or without the body. More recently the chemical pathologists seem to have considered that their idea has been indisputably established by the experiments of Richardson, and of Balthazar (now Sir Balthazar) Foster, through the results obtained by the former after the administration of lactic acid to cats and dogs, and by the latter to two men suffering from glycosuria; and upon these experiments and limited results "this very neat hypothesis, resting upon these somewhat slender bases," to adopt the words of Dr. Ord principally depends. Dr. Ord, however, further adds:—[1] "As resting on their observation, and that lactic acid has been found in the blood during acute rheumatism, is supported by names of great authority"—a statement to which I must take execption, whether adopted by Dr. Ord, or merely attributed to the owners of "names of great authority" referred to in his able address.

I trust that I shall be able ere I conclude to demonstrate in a satisfactory manner the insufficiency of the data, and the inconsequence of the conclusions arrived at, as well as the danger to which scientific truth is liable through a too implicit reliance upon authority, however eminent or respectable. Senator summarily disposes of Richardson's conclusions by saying "that it never met with much favour in Germany, and, indeed, it has lost whatever little credit it enjoyed since Moller and Reyher proved the results of the above-mentioned experiments to be erroneous. I have already stated that the experimental demonstration which Richardson tried to furnish by injecting lactic acid proved a failure."[2] Senator, however, seems to have been more favourably impressed by the speculations of Foster, "who has recently published some observations conducted on the human subject, which prove in a more striking way than any experiments on the lower animals possibly could do, that a disease completely analogous to polyarthritis may be produced in man by the administration of large doses of lactic acid. Foster's experiments were made on two diabetic patients, in whom the prolonged administration of lactic acid invariably produced the disease in a perfectly characteristic form, the symptoms always subsiding when the medium was continued. Kuêlz has quite recently observed the same phenomenon in a diabetic patient who was treated with lactic acid. The above consideration appears to me to indicate that the theory of the accumulation of the lactic acid in the system deserves more attention in the pathogeny of rheumarthritis than has been hitherto accorded to it."[3]

The next important pronouncement I shall refer to occurs in the otherwise excellent memorandum on acute rheumatism, the joint production of Dr. J. Goodhart and Dr. Thos. Barlow, issued in the name of the "Collective Investigation Committee," and published in the *British Medical Journal*, of April 22nd, 1882, and is as follows: "We are still ignorant as to its etiology; we have no accurate data in regard to the influence of food, and beyond the curious but well-established observations of B. Foster on the appearance of a quasi-rheumatic affection of joints, and under the administration of large doses of lactic acid, physiological chemistry has as yet given us no help." But, recently a more redoubtable combatant has entered the lists, to do battle for the chemical theory, in the person of Professor Latham, of Cambridge, who, in the Croonian Lectures for 1886, "On Some Points in the Pathology of Rheumatism, Gout, and Diabetes, has laboured in numerous pages of chemical formulæ of most elaborate and abstract character to demonstrate its truth with mathematical precision, and to reduce the argument to the simplicity of a chemical equation. The reader of Dr. Latham's erudite lectures is conducted through a labyrinth of intricate decompositions and recompositions, and transmutations, bewildering to ordinary comprehensions, but evidently satisfactory to the author, who appears convinced that he has succeeded in solving the riddle of causation.

By discarding lactic acid, and adopting uric acid as the primal cause of rheumatism, he has simplified the issue by so much; and while admitting the *rôle* of the central nervous system in its pathogeny, he assigns to it but a secondary position, as due to the action of uric acid in excess upon the vaso-motor centres, which, failing to control the vessels of the various affected tissues, thus indirectly gives rise to the gouty and rheumatic symptoms. The abnormal presence of uric acid in the blood is owing, he says, to the non-transformation of glycogene into urea. As one of his friendly critics remarks, "he appears to regard the body simply in the light of a complex laboratory. He is very fond of chemical formulæ, and has certainly made good use of them in explaining, or attempting to explain, some of the changes occurring in the organism; while some of his deductions appear to us far-fetched and highly hypothetical, we must acknowledge that many of them are very ingenious and suggestive, and as such we accord them every praise"[1]—just so. Agreeing with Charcot and Hutchinson, Dr. Latham appears to recognise the existence of an arthritic basic diathesis, a stock from which branch out two main divisions, or so-called evolutionary manifestations, and apparently proceeds to reason thus: gout is an arthritic disorder, attributable to the presence of uric acid in the blood; but, rheumatism is also an arthritic disorder, and is therefore caused by similar agency—an acid, lactic or uric; and having postulated in this manner, he proceeds to the proof, by the process of deduction, a procedure which, in the words of an accomplished writer already quoted, "first assumes the hypothesis, then assumes its absolute truth, and next reasons down to facts." His essay also proves that "if we may fairly assume that the deductive method is vanished as an acknowledged scientific instrument from the domain of pathology, it is equally certain indications of an unfortunate disposition to return to it every now and then make their appearance."[2]

Doubtless we often observe a hybrid coalescence of gout and rheumatism; and gout may supervene on rheumatism, and rheumatism be followed by gout, yet, although there exists a close relationship between them, they are nosolo-

[1] "Address in Medicine," Belfast, *British Medical Journal*, August 2nd, 1884.
[2] *Op. cit.*, pp. 26-9.
[3] *Op. cit.*, p. 28.

[1] *British Medical Journal*, April 23rd, 1887, p. 887.
[2] Dr. W. H. Walshe, *British Medical Journal*, "Address in Medicine," Aug. 9th, 1862.

gically distinct diseases. It may indeed be urged after perusing the very learned disquisition of Dr. Latham, that although he may not have succeeded in demonstrating the presence of an acid factor in the blood, it may nevertheless be present—true! but to this assumption one can only apply the maxim of the schools: "*de non apparentibus et non existentibus, eadem est ratio.*"

As to Foster's experiment, previously referred to, it is pretty evident that while, by the free administration of lactic acid to two diabetic patients, he undoubtedly evoked symptoms of arthritic disorder ("quasi-rheumatic," Goodhart and Barlow called them), it has yet to be proved that he had any justification in designating them as of rheumatic character.

To quote from my paper "On the Pathology and Treatment of Acute Rheumatism," published in the *Dublin Journal of Medical Science*, October, 1881: "The lactic acid hypothesis has been called into revived consideration by a paper in the *British Medical Journal*, of December, 1871, by Balthazar Foster, with the title of 'The Synthesis of Acute Rheumatism,' in which he published two cases bearing on the point, and expressed the opinion 'that these facts which have recently recalled me to my allegiance will strengthen the evidence that points to lactic acid as the poison of rheumatic fever.' The observations arose incidentally from an enquiry into the effects of certain drugs (among the rest, lactic acid) on the sugar excretion in diabetes. It is not my intention to question the correctness of the facts adduced by so accurate an observer. The results are quite consonant with the recognised effects of lactic acid. I must, however, take exception to the conclusions deduced from them, and beg to offer a solution more in accordance, I believe, with the true clinical significance of the published signs and symptoms. In the first place, Wright, ill with diabetes, and who had never suffered from rheumatism, is fed on a strictly animal, nitrogenous diet, a diet which, in healthy persons, predisposes to a certain blood disease—not rheumatic, however. Consequent upon the internal administration of the lactic acid, he had six attacks of articular pain fairly attributable to that agency; but, when we come from synthesis to analysis, we find that instead of mentioning 'acute pains in the joints, and flying pains about his limbs,' Foster particularises the joints affected. He says, 'the small joints of the fingers of both hands, the wrists, and, in a less degree, the elbows had become red, swollen, and painful; moderate perspiration, and heart clear.'

"*Second attack*, after six days dosing. On April 4th he complained of having had a bad night from joint pains, which came on *suddenly after midnight*. On examination, the metacarpo-phalangeal and first phalangeal articulations of the first and second fingers of each hand were found to be red, swollen, hot, and painful. The slightest movement aggravated the pain, and he could not, on this account, pick up anything with his fingers. The heart sounds were clear. The acid was then stopped. In the evening the pain in the knuckles was less; the redness had diminished. No other joints were affected. There were, subsequently, other reproductions of these symptoms in the knuckles, wrists, and elbows, and on two of these occasions the knees were stiff and painful, alternating with each other.

"In Case II. the patient, after taking the acid for four days, came to the doctor complaining of a sharp pain in his right knee, rendering walking painful. *No swelling or redness of the knee or other joints.* Again, after an interval, and the free administration of the acid, he found him in bed with pain in his elbows, shoulders, ankles, and knees, and all over him. None of the joints were swollen, except the right knee, which was faintly red, decidedly swollen, tender, and painful. The case is of little worth; the only joint swollen was the right knee, which was *faintly red.* How unlike an attack of acute rheumatism, in which we look for an initial rigor, for swelling, redness, and pain in the large articulations, excessive sweating, muddy urine, and cardiac affection." Does it not more clearly realize our conception of gout? which selects the smaller points for its habitat, makes its onset in the night? and what more efficient plan could we adopt to induce an attack of gout than by prescribing for a diabetic patient strictly nitrogenous food, accompanied by large doses of lactic acid, whose congener uric acid is always present in excess in the blood of the gouty? We cannot in this enquiry overlook the fact of the intimate connection that subsists between gout and glycosuria. Garrod states that gout and diabetes occasionally occur in the same individual; and Dr. Dyce Duckworth, in a very suggestive paper which appeared in the *British Medical Journal*, March 26th, 1881, refers to the remarkable relation that exists between these diseases. "Diabetes mellitus," he says, "is met with in certain members of gouty families, some having regular arthritic attacks, others incomplete gout, and others again, gout alternating with glycosuria. The gout alternates with uric acid. I believe that many cases of temporary glycosuria are due to gouty conditions, and that the alliances between these two states are very intimate. In both the gouty and the diabetic the law of heredity holds good, and the nervous system is involved; the same dietetic habits lead to each; the same classes of persons are affected; and the same exciting causes, such as tend to exhaust and depress the nervous system, will evoke both."

Dr. Ord, in the Address in Medicine already referred to, states that in more than one-third of his cases of diabetes true gout was distinctly present, that Drs. Gairdner and Lauder Brunton pointed out their frequent association, and asks whether in many people there may not exist a more or less constant arterial hyperæmia of the liver comparable to the acute hyperæmia of the joints, undoubtedly an essential factor of acute gout. Thus it would appear that B. Foster's cases are most probably instances of glycosuria and incomplete gout, present in the same individual; and one can understand in what manner lactic acid, either pure or altered in its passage to the blood, might react on the sugar or glucose in the system, and speedily change the saccharine to the acid fermentation, and thus arouse in the diabetic subject the latent symptoms of gouty disorder.

B. Foster has not told us whether, after changing the character of the blood by the action of lactic acid, there was any diminution of the glycosuric formation, or a complete suspension or alternation, such as Dyce Duckworth speaks of; nor that he had thought of applying the test supplied by Sir Alfred Garrod for the presence of uric acid in the serum of the blood. Had he done so, its presence or absence would have aided one way or other in determining the true significance of the factitious arthritic attacks. One of his latest critics, Dr. Fagge, writes of the result of Foster's experiment and his production of arthritis, "the symptoms of which seem to have resembled those of acute rheumatism." For so far, it has not been alleged that the administration of

lactic acid to a non-glycosuric subject has elicited any symptoms of arthritic disorder.

We have now to consider whether the results of the alkaline plan of treatment of acute rheumatism tend to prove the existence of a causal *nexus* between an acid condition of the blood and specific arthritic inflammation; and while in this enquiry we must freely admit that the administration of alkalies, notably of the potash salts, will neutralise free acid in the stomach, in accordance with chemical laws, and control the acid reaction in the urine, and may even succeed in inducing an alkaline condition of the system, with a corresponding improvement in the symptoms, it does not therefore follow that the popular theory of its *rationale* is correct, and that if critically examined it may not be capable of demonstration that it is not to its chemical, but to its vital action on the system the improvement should be accorded.

According to Guttman, Ringer, Bartholow, and other authorities, potassium and its combinations are essentially heart depressants and poisons, their physiological action being manifested through the medium of the cardiac ganglia. When a large dose is suddenly precipitated on the heart, its movements are speedily arrested; paralysis follows, and the arrest of the heart takes place in diastole.

Dr. Paul Guttman, quoted by Ringer, says that potash salts are all more poisonous than soda salts, and that they are depressors and paralysers of the heart. Bearing this fact in mind, Dr. Garrod modifies his alkaline treatment of acute rheumatism by combining with the potash salt a cardiac tonic and sustainer, as much as five grains of the alkaloid in the form of a carbonate, with thirty of the alkali from the very first, being given every four hours. The effect of the drug upon the patient must be carefully watched, and the amount and frequency of the dose varied accordingly, or if necessary, stopped.[1] That the salutary influence of potassium on acute rheumatism is not derived from its merely alkaline properties may be fairly inferred by contrasting with it the effects of the administration of the salts of sodium, or other typical alkalies, in this disease; sodium has but little toxic action, and but to a slight degree alters the composition of the blood. According to Bartholow, "in respect to the merely alkaline properties there is a close correspondence between potassium and sodium; but as regards other properties, there is a wide divergence. The salts of soda are alkaline, and hence, neutralise the acid of the gastric juice. The composition of the blood does not appear to be altered by them in any reasonable quantity; they do not promote oxidation in the system; and they cannot be used as substitutes for potash salts in the febrile state." Schönlein states that in large doses in frogs soda rarely arrests the heart's movement, only slowing and lengthening the contractions; and Paul Guttman, quoted by Ringer, "affirms that soda salts, in twice or thrice the quantity that proves fatal in the case of the potash salts, produce no effect on the system but a passing weakness. Even in large doses, soda salts excite no action on the heart, cause no diminution of the temperature, and produce no apparent effect on the cord, brain, nerves, or muscles." And ammonia, though powerfully alkaline in its reaction, and an effective antidote to acidity of the stomach, and *primæ viæ*, is seldom or never prescribed for the cure of acute rheumatism.

And thus, with three alkalies intimately allied in chemical affinity, equally potential in neutralising gastric acidity, yet widely differing in their other medical qualities, we find but one of the trio relied upon in this country for the relief of a painful disorder dependant, we are told, upon hyper-acidity of the blood and tissues; and while one is noted for its absolute neutrality and inertness in heart dynamics, and another is remarkable for its power of rousing the heart's action and stimulating the circulation, the third—the only alkali capable of lowering or depressing abnormal cardiac excitement and disorder—the potash salt is the sheet anchor of the chemico-pathologist. From this comparison it would appear that the calmative influence of the potash salts does not depend on their chemical properties, but on their vital action as cardiac sedatives or depressants; and further, that if the chemical conditions subsisting in acute rheumatism were regarded in their true light, and as epiphenomena merely, the *rôle* of alkalies in its treatment would obtain a greatly diminished significance. But, argument apart, the experience of eminent writers and authorities acquired by the most delicate chemical experiments and observations is adverse to the existence of lactic or any other acid in the blood or serum of the rheumatic patient in such amount as to constitute a satisfactory explanation of its cause. For myself, I have never been able, after many examinations of serum removed by a blister from the cardiac region, or that of the joints, to discover a trace of acid, the fluid being uniformly intensely alkaline in reaction, and coagulable by the application of a very moderate amount of heat.

Bristowe says: "It has even been maintained that the poison is either lactic or some other acid. No excess, however, of any such acid has yet been detected in the blood or perspiration of rheumatic patients; and if there be a rheumatic poison, which is possible, its discovery is in the future."[1]

Mitchell Bruce writes: "The blood has frequently been subjected to chemical analysis, but without any positive result of a pathological kind, the reaction of the liquor sanguinis is alkaline as in health. The amount of urea is not above the normal. Neither uric acid, lactic acid, nor any other abnormal principle, has been found in the blood during an attack of acute rheumatism."[2] Senator's opinion is that "the very existence of such excess of acid in the system is a mere hypothesis."[3] And Dr. Garrod declares that "after repeated analyses no abnormal principle has been found in the blood. Lactic acid has been assumed to exist, but no proof has been given of its presence." And again, "From acute gout, rheumatism may be separated by the absence of uric acid in the blood."[4] Additional testimony of a like nature might easily be afforded; but in the present state of the medical mind, so prone to revert to the humoral pathology in cases of difficulty, it might be practically unavailing. In the words of Dr. A. Davison, addressed to the Section of Medicine at Belfast in the 1884 meeting of British Medical Association, "It would be some time before existing theories or views as to the connection between acute rheumatism and the presence of certain morbid products in the blood could be subverted. It was impossible to explain the chemical phenomena of it solely by the changes in the blood, but it was quite impossible to deny the nervous system a very powerful influence, even in ordinary acute rheumatism itself."

(To be continued.)

[1] Mitchell Bruce, in Quain's "Dictionary of Medicine," Part ii., p. 136.

[1] "The Theory and Practice of Medicine," p. 903.

[2] Quain's "Dictionary of Medicine;" Art.: Acute Rheumatism, p. 1335.

[3] Ziemssen's "Cyclopædia;" Art.: Polyarthritis Rheumatica Acuta, vol. xvi., p. 62.

[4] Reynolds' "System of Medicine," vol. ii., pp. 827, 905.

THE PRACTICAL USE OF TRUSSES, AND THE OPERATIONS FOR RELIEF OF STRANGULATION.[1]

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TO ATTEMPT to condense such a subject as hernia into a single lecture is not only difficult, but absolutely impossible. I propose, therefore to discuss in some detail its more ordinary forms, symptoms, diagnosis (differential and otherwise), and treatment. I shall tax my own practice and experience in the views I bring before you, as it happens in that branch of surgery to have been fairly extensive. I may, of course, state that I mean by hernia, hernia in its accepted term, and to restrict myself, at any rate to-day, to the diagnosis and treatment of protrusions through some weak point in the parietes of the abdomen. The consideration of intra-abdominal herniæ, intestinal obstructions and occlusions, I must defer to some future date, if we have the time and opportunity. Indeed, their disassociation, from extra abdominal herniæ, is often a matter of extreme difficulty, and is possibly almost empirical, unless, of course, there is some evident hernial tumour, again, the conditions may be co-existent.

Definition.—I understand by hernia, in its ordinarily accepted sense, any protrusion of gut, part of gut, omentum, viscus, or part of viscus, through a *natural* opening in the walls of the abdomen, which may, or may not, have become dilated, owing to certain circumstances. Again, such a protrusion may take place through some adventitious aperture, but I do not consider such cases as within our series to-day. As a rule, any protrusion originally takes place *gradually* along some canal or opening, distending it *en passage*. We must be occasionally prepared for natural canals being afforded even by apertures for blood-vessels, or after ascites, or repeated pregnancies. Parts become so relaxed, and unable to resist normal pressures, that unexpected passages for gut protrusion are afforded, all of which contingencies the surgeon must be prepared for, and endeavour to differentiate between in his diagnosis.

Normal Anatomy in general.—I cannot here take up any amount of our time in anatomical detail, though please remember that operations for the relief of hernial constrictions are strictly anatomical, though not of necessity of the purely dissecting-room character.

Sac.—From a considerably long experience in teaching, I have noticed how vague the general idea is as to the nature of the "sac." Now, as to the sac itself (I shall speak of its "recognition" in my more practical remarks), its nature in relation to its contents, and to the abdominal walls.

Formation of Sac.—A knowledge of the method of the formation of the hernial sac is of great practical importance. The pouch-like prolongations of the parietal peritoneum are either congenital, or are the result of some local strain on the abdominal walls, or they may be caused by the dragging of some fatty mass in the sub-serous cellular tissue, which is drawn outwards, pushed against the skin, dragging the peritoneum with it. The latter is the general condition met with in crural hernia. On the other hand, the oblique external inguinal herniæ are generally congenital, as also are umbilical. Once the sac exists, it is of necessity dragged upon and enlarged by intestinal pressure. More gut gets into it, and it, of course, becomes bulkier. Of this nature are most frequently congenital inguinal herniæ, which go on increasing, and sometimes attain such an enormous size that almost the entire intestinal canal may be contained therein. Speaking generally, the form of the sac is pouch-like, with a more or less constricted neck. If the serous membrane at the terminal aperture, against which the peritoneum is pushed, takes on any considerable thickening and contraction, the *neck* is formed, which is of the greatest importance, as the most frequent seat of strangulation. Sometimes we find the neck of the sac relinquish its normal position at the hernial aperture, as, for instance, when the peritoneum is reflected upon itself, and also the sac pulled up; or if the hernia, perhaps owing to its weight, tears the neck of its sac by traction downwards and outwards. The sub-serous cellular tissue in the hernial sac is sometimes atrophied, sometimes hypertrophied, rarely, perhaps, locally attached to the adjacent parts. In crural and direct internal inguinal herniæ we meet with the so-called *fascia propria*, and we know of it well as a dissecting-room fact, and possibly in actual practice. It may be the locale of the fatty processes already alluded to. If this sub-serous fat accumulates to any extent, we get a "fatty hernia." I have met with such cases, and they are very difficult of diagnosis. It is advisable to mention here that such herniæ have not always a sac, and that these "fatty herniæ" develop lipomata, rendering both diagnosis and treatment complicated. The sac may be entirely absent, and when

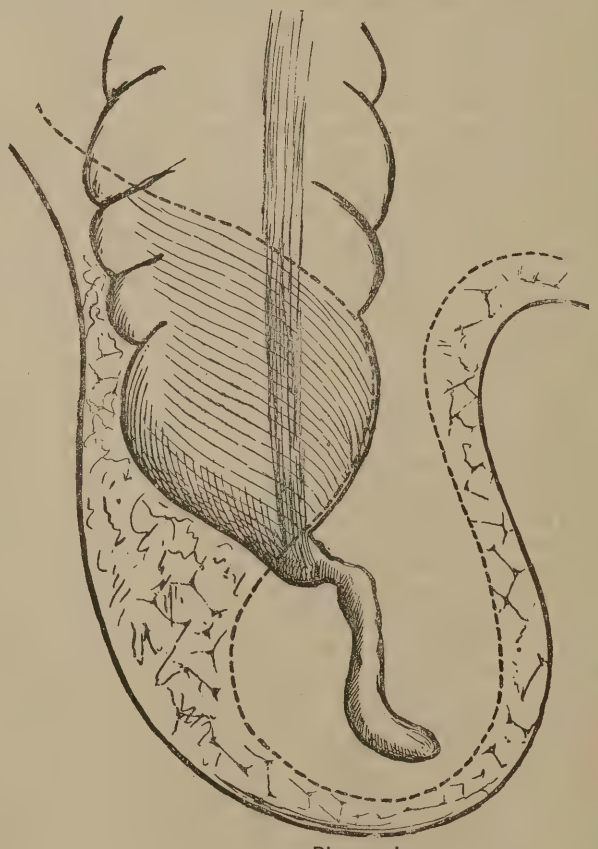


Diagram I.

not met with, is almost limited to hernia of the iliac aspect of that portion of the caput cæcum coli, where uninvested by peritoneum (*vide* diagram 1).

Its structural changes, I need hardly say, are of the greatest

[1] Abstract of Post-Graduate Lecture.

import in diagnosis and treatment. The sac is liable to alteration from its normal condition from long-continued irritation, want of nutrition, and, what is most common, I think, inflammation, resulting in adhesion, and frequently, and most important, in great thickening, near, or often happening in the *neck* of the sac, as in a case I operated on recently, where the sac was certainly as thick, and looked very much like, coloured wash leather.

Coverings of Hernial Protrusion.—Practically speaking, the most important of the coverings of a hernia is the *fascia propria;* possibly the most constant met with during operation, as it so rarely gives way. It immediately invests the sac, and may be mistaken for it by the unwary, and, like the sac, being subject to pressure, it becomes thickened and adherent, and simulates it most closely in its relations at the neck of the sac, and it is only after its division that we can define its actual condition, and by so doing we may reduce the hernia without opening the sac, an important factor in our decision as to its opening or non-opening. Moreover, it *looks* very like the sac, especially in femoral hernia; but I have often called the attention of students to the fact that owing to its *continuity* to the *margins* of the rupture—the ring, in fact—it appears to be prolonged upwards, whereas if the sac is exposed we can feel the defined margins of the constricting portions, which we can rarely do unless this fascia be divided.

Contents of Sac.—Now as to the *usual* contents of the sac—speaking merely of gut, for most untoward events occur—(1) if intestine alone, *enterocele;* (2) if of omentum only, *epiplocele;* (3) if both, *entero-epiplocele*, occasionally extraordinary contents are met with; but as a rule we find, small intestine, ileum, lower part of jejunum; and if large intestine, caput cæcum, or a bit of the sigmoid flexure.

Classification of Herniæ.—First of all, *Reducible*. The term itself might be taken to be obvious, though in actual practice this is often not the case. As a rule patients suffer so little; they are aware of their condition; they can either, themselves or their doctor, "tuck" up the protrusion, and feel as well as ever directly afterwards. They often overlook, or possibly underestimate what may turn out to be a very serious contingency. This condition may have, and generally does appear gradually, or there may have been some sudden effort to account for it, at any rate, upon the hand being placed over the swelling, a distinct impulse is given on coughing, and most likely an increase in its bulk. The recumbent position is often enough to cause reduction, at any rate the surgeon's finger, if gently introduced into the canal, will accomplish it, and this reduction, in the event of gut, is almost always associated with the peculiar "gurgle" so satisfactory to our ears. If omental, the reduction is not so easy; there is a more tough, doughy feel, and no gurgle. In entero-epiplocele the gut is usually the first returned, followed by the omentum.

As a *rule*, then, the process of *Reduction* is this: The patient recumbent, shoulders and pelvis slightly raised, lower limbs partially flexed on pelvis and adducted, for the purpose of relaxing the abdominal muscles, the mouth kept open so as to prevent undue action of the diaphragm, or straining. The swelling should now be pressed with one hand gently in the direction of the canal, whilst the other directs the pressure at the neck of the sac, thus guiding it into the abdominal cavity.

Trusses.—Here, I think, a few remarks on the use and proper application of trusses may be of value. I do not intend to weary you with anatomical detail or nomenclature now; I will demonstrate these points in my demonstration on the dead body. I will make a few remarks as to the measurements and particulars required in ordering a truss. I quote from Professor Wood: "State whether the hernia or weakness is a right or left one, or both. Give some idea as to the size of the protrusion. State whether the opening through which the hernia escapes is large or small, and give a description of the hernia. The truss should be constantly worn, except when the body is in the horizontal position." Here I cannot quite agree with my teacher, Professor Wood; it should always be worn. "The spring should be sufficiently opened to go round the right leg; it should be placed round the left leg, and afterwards drawn into place, and the pads adjusted in their proper position after the rupture has been perfectly reduced. It is very important to remember that a duplicate truss should be used in all cases, not only for the sake of cleanliness, but even for the sake of change. The great principle to remember is that a rupture must always be kept up."[1]

Irreducible Herniæ.—I now come to the most important portion of our lecture—viz., those conditions of hernia which would threaten life were it not for prompt measures—and here in their treatment, the functions of the anatomist, pathologist, and operator are blended, or should be.

Before commencing, we must have distinct ideas as to nomenclature, and which, I consider, must be founded on anatomical facts. There are conditions which are not necessarily attended with immediate danger, and they may be described thus: (1) A hernia may be irreducible from adhesions between it (or omentum) and the sac, thus preventing reduction; and it does not follow that the protruded portion of bowel is interfered with, so far as its peristaltic action is concerned; but the element of danger in these cases is that the protrusion may become inflamed, and strangulation ensue. (2) If a hernia has been left unreduced for some time, it may happen that from alteration in form, or, according to Spence, some increased deposit of fat in protruded omentum, may so far add to bulk that it cannot be returned into the abdominal cavity. In such a case, if taken in time, and before adhesions have taken place, by proper manipulation, well-regulated pressure and cold, as well as the recumbent position, the hernia may be reduced. (3) In a third class of cases it may so happen that the hernia is irreducible on account of its great bulk, and has formed a sort of secondary cavity for itself external to the abdomen—a state of things occurring most commonly in large umbilical, scrotal, ventral, or possibly femoral ruptures. In this cavity the hernia lies, and may threaten strangulation, and, as in a case which happened to myself, which I brought before the Clinical Society, an operation for its relief *merely relieved* the contents of the preternatural pouch.

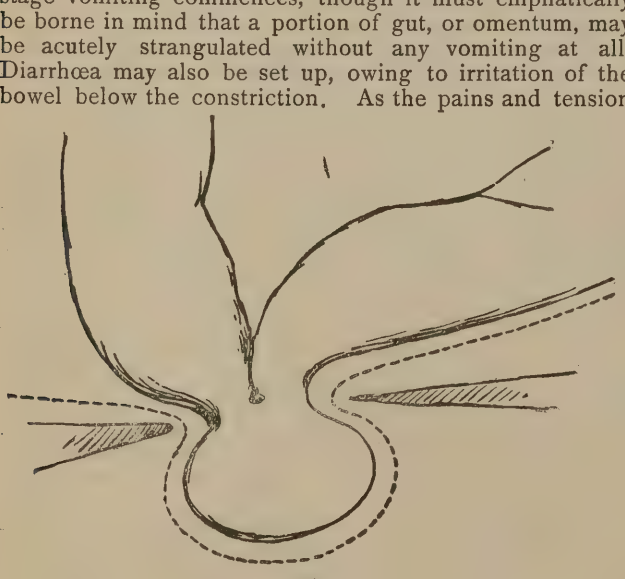
If the hernia becomes irreducible through acute constriction, incarceration, or strangulation, danger is imminent, owing, of course, to interrupted function of the knuckle of gut, omentum, or both. It may be followed by peritonitis and sphacelation.

Perhaps the term *Incarceration* requires a more careful interpretation than generally given. I look upon it thus: It is one of degree, and is the early stage of *constriction* before complete *strangulation;* in fact it is the preliminary stage of strangulation. The term *Constriction*, again, should

[1] Wood: "The Application of Trusses," p. 32. Matthews Bros., London.

be correctly understood. It takes place in the following way, remembering that the constricting elements of the protrusion are the fascial tissues, or the neck of the sac, and that the muscular tissues, though favouring the condition, do not *imprimis* cause it, we find that in the majority of cases where strangulation occurs the hernia has existed for a long time, and the openings through which it passes are *dilated*, and not contracted, and the fascial or peritoneal margins, pressed upon by the protrusion become thicker, more condensed, and the denser structures become more resistant and oppose dilatation. Hence it is that, if fresh gut or omentum descend, or such gut becomes distended by fœces or flatus, an altered relation is set up between the gut and the tissues constricting and indenting it. Then congestion from interrupted venous circulation commences, swelling, distention, and strangulation.

Strangulation.—Let us thoroughly understand what this means. We have nearly arrived at it, in speaking of incarceration. It may be stated thus: *irritation and swelling of the protruded gut*, leading to such general symptoms as follow. To take a typical case of a hernia, if let alone, passing from a state of acute incarceration to strangulation and gangrene. In the first place the patient may have had, and possibly has had, a rupture for years, able to reduce it, but, on occasions, he has been unable to do so after, we will say, some exertion. The patient usually complains of sickness and griping, and tenderness over the site of the rupture. Owing to the peristaltic movements of the intestine being altered, venous engorgement occurs, and gases become evolved in the gut, the constricted portion becomes more tense and distended, and the indentation caused by the constricting fascial or sac margins more deep. The pain increases, and, possibly, at this stage vomiting commences, though it must emphatically be borne in mind that a portion of gut, or omentum, may be acutely strangulated without any vomiting at all. Diarrhœa may also be set up, owing to irritation of the bowel below the constriction. As the pains and tension



Littre's Hernia.

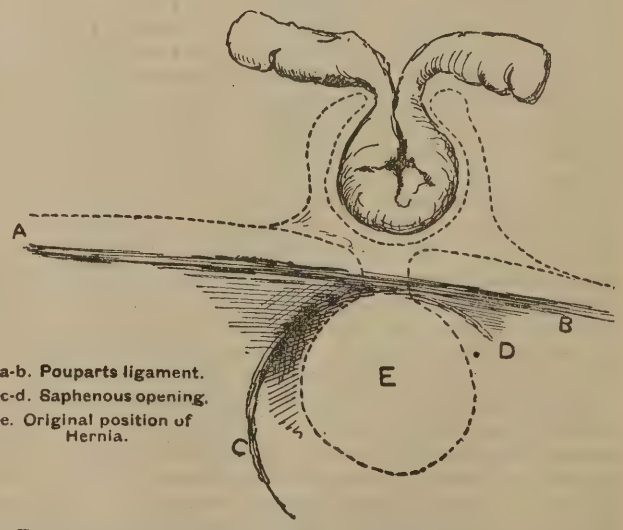
increase, so does the abdomen itself become more tense and tympanitic, and the vomiting more frequent. The pulse quick, skin hot and feverish, tongue moist and furred, and generally headache. On further progress, it may so happen that the protrusion, or tumour, is less painful, but the integument becomes of a dusky red; the pulse small, wiry, irregular, and the vomit now distinctly fœcal.

Examination of Hernial Tumour.—The skin becomes cold and clammy, the *facies Hippocratica* (or *herniatica*, as I call it—it is so well marked) comes on, the hiccup or attempts at vomiting more frequent, these symptoms pointing to commencing gangrene of the gut, and unless we relieve the patient by operation, there is a fatal result. The same symptoms may result in cases of strangulated omentum, or in such a case where only a portion of the lumen of the gut is nipped, as in *Littre's* hernia, or a constriction of a Meckel's diverticulum.

Taxis.—And now, a few words on what is understood by taxis—an attempt, often a successful one, to return a hernia into the abdominal cavity and into its proper position without recourse to operation by any cutting process. I may state, *ab initio*, that if the two procedures, operation or taxis, were compared as to danger, I most certainly regard taxis as the more dangerous, for reasons I will presently explain. However, to apply taxis, without an actual case before us, it is very difficult to explain what is so depending on judgment and "touch."

Failure of Taxis.—Immediately operate; all further and persistent attempts at reduction will do more harm than an operation. The extra-peritoneal operation will in most cases suffice, supposing the hernia to have been down twenty-four to thirty-six hours, and symptoms are not *very* urgent; but by continuing taxis we are not at all sure what we are doing, and on operation being performed it will be found what *harm* has resulted from manipulation. I think that fatal results occur from *delay* in operation, and that the condition of the gut prior to it is the cause. *Urgent* symptoms should *never* be waited for. To begin with, it is illogical. In the event of diagnosis, even with symptoms not being quite clear, no harm can be done by operating, especially with our modern methods of combating its supposed dangers. Hence the axiom, "*When in doubt, operate.*" You will never regret it, and may for ever regret *not* operating.

CASE I.—Plan of Reduction en masse.

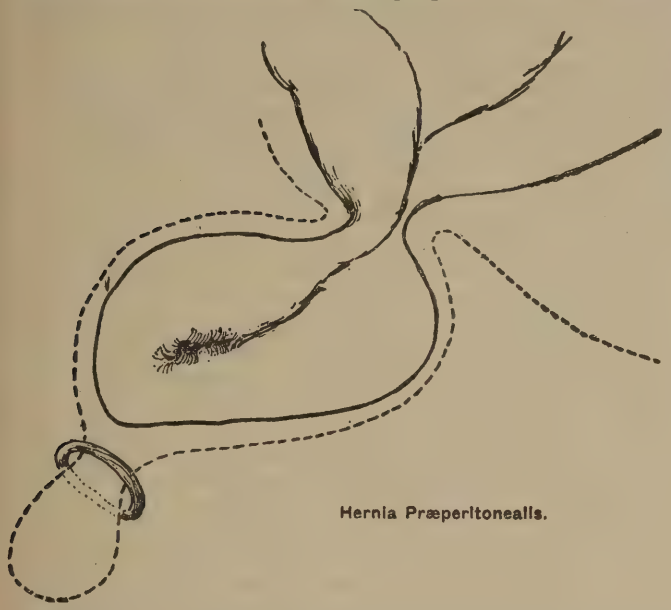


a-b. Pouparts ligament.
c-d. Saphenous opening.
e. Original position of Hernia.

Dotted lines indicate peritoneum.

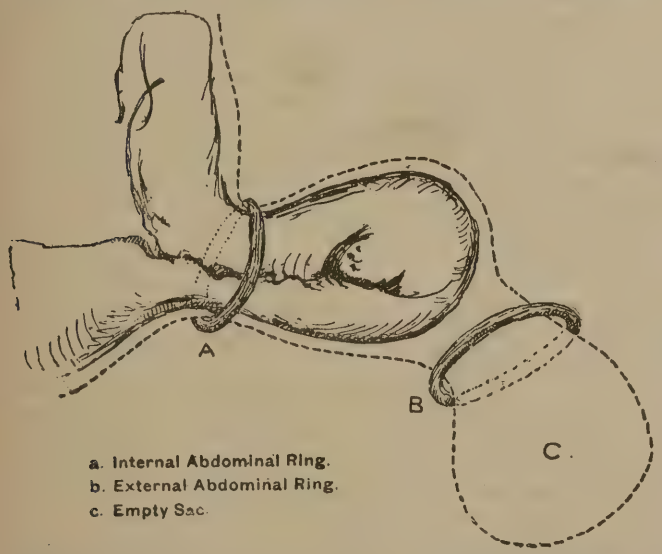
Reduction en masse or en bloc.—With regard to this condition, the chief points are the more usual forms of such reduction and treatment; definition of reduction *en masse* in the condition, when the sac and bowel are reduced behind the rings. I show you some sketches of the several forms of this reduction. The one occurs in inguinal herniæ,

when the knuckle of gut is reduced merely through the external ring, remaining in the canal, and still bound by the inner ring. Again, the neck of the sac, if it lies very high up, and which has been pushed up behind the inguinal canal, can easily lead up to this mistake. Such instances are termed *hernia præperitonealis*. Another



Hernia Præperitonealis.

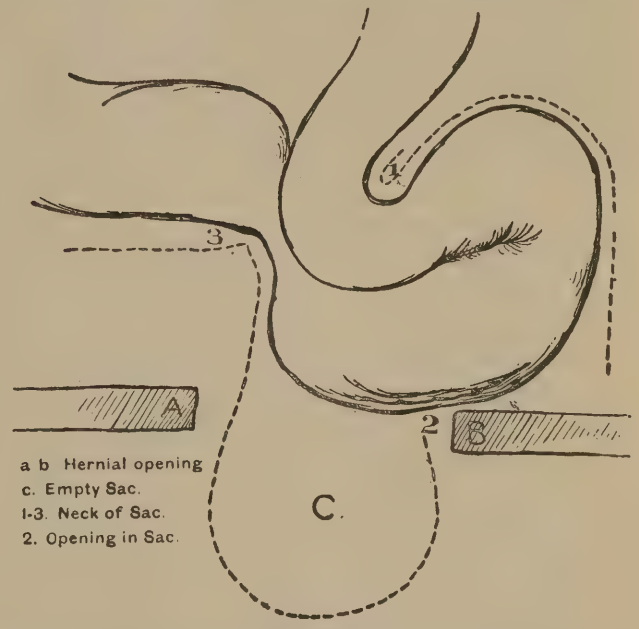
mishap occurs in herniotomy, and it is this (it has occurred to myself)—one performs, as one imagines, the operation *secundum artem*, the surgeon divides the sac near its neck, or if you like at, its neck, and pushes up the coil of gut; and



supposing all well, and that the gut is absolutely replaced, he finds afterwards (*i.e.*, supposing the case a fatal one) that the gut is strangled at its sac's neck, twisted on one side from the sac itself, and tucked up between the peritoneum and parietes (*fascia transversalis*, etc.)

Again, we may meet with cases where the constriction may take place in some abnormal pouch or foramen, the folds of peritoneum, or in some false membrane, or from complication, twisting, distortion, or kinking, still continuing after the supposed reposition of the parts.

Extra-Peritoneal Operation.—The principle of operation is the same in all cases. We should aim at exposing the part where constriction exists, and then can be seen exactly the parts requiring division. It is clear we cannot see the condition of the gut but by this method, so therefore, in reducing we must be very careful not to do so *en masse*—a state of things apt to occur if the sac is not opened, as I think, the extra-peritoneal operation is only proper in very recent operations, and not justifiable after forty-eight hours. In the slightest doubt of fitness for return, I always open the sac. I say, always examine the state of the gut at its constriction, gently draw down the bowel *from above*, and an opinion can be then formed, for if there be any show of gangrene, its return may be fatal.



Recognition of Sac.—Supposing an uncomplicated case, this is often difficult. The sac is covered by some loose cellular tissue, devoid of fat, bluish, and as before said, generally containing a coffee-coloured fluid. If, however, it has been irritated, it may present as thick, pale, dense, or fibrous.

Description of Operation.—All the proper antiseptic, or cleanly precautions having been carried out in absolute detail, an anæsthetic should be administered, if available, and the patient completely narcotised. The line of incision depends, of course, on the anatomical position or relations of the tumour to the ring and its surroundings, varying naturally in the different forms of rupture met with. The integument should be boldly, but carefully opened in the long axis of the hernial tumour, and at the same time, the locality of the constriction sought for. After carefully dividing the fascia, as a rule the contained fluid between the sac and the bowel, if not actually seen, is felt. The sac should now be pinched up, the knife lateralised, and cut through tangentially to the axis of the gut. A skilled operator will cut as freely through the sac as through the integument. I personally never use a director, and I believe it to be capable of doing great harm in clumsy hands. The pulp of the fore-finger, which is the best and safest director, must now be gently introduced into the sac.

We can now see the condition of the knuckle of the gut, or of the omentum, or of its contents. If gut, and if it

is seen to be of a deep red-blue or brownish colour, undoubtedly return it. If it is found to be black, or even with a black spot—I was going to say on its surface merely—an important re-consideration—*operate at once.*

The absolute position of the constriction ascertained, a probe-pointed bistoury or hernia knife slid flatwise along the finger's pulp, cautiously pushed between the pulp and the sharp ridge of constriction, is then turned at right angles to it, when an unmistakable *feeling*, perhaps *hearing* of "giving way," convinces the surgeon that he is so far right. The next procedure is reduction, which may or may not be difficult; but my experience is that if the constriction be properly divided, and the bowel healthy, it is simple enough. When we are quite sure the hitherto constricted portion of gut is really returned within the abdomen, we proceed to deal with the sac. This consists in most instances of ligature of the neck of the sac, and its subsequent removal. Sometimes, as happened to me the other day, the sac, after reposition of the gut, is found to be as thick as wash-leather, and not unlike it in texture and appearance, complicating the operation.

(*To be continued.*)

A LECTURE ON SOME OF THE CLINICAL RELATIONS OF ALBUMINURIA.[1]

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I PROPOSE to take up in this lecture a few of the more important, and perhaps interesting, conditions under which albuminuria is apt to arise, or with which it may be associated. In the first place, perhaps one would not be wrong in saying, for all practical purposes, that every case of Bright's disease is a case of albuminuria, but not every case of albuminuria is a case of Bright's disease. This statement, trite as it may seem, will serve to emphasize what is too often forgotten in practice—the all-important duty which devolves upon us of saying whether, in a given case, the presence of albumen in the urine means grave disease of the kidneys, or is only an indication of some general condition of no serious import, or, it may be, the result of some misbehaviour of parts structurally healthy.

From this little it will at once occur to you that a useful division of cases of albuminuria into those which are due to one of the forms of Bright's disease, and those which are not, is one which at any rate is readily made on paper, though perhaps not so readily made in actual practice. To decide that the presence of albumen in the urine is due to structural disease of the kidneys is, by implication in most cases of chronic disease (and it is in these that difficulties most often confront us), to condemn the patient, sooner or later, to death. Still I think for practical purposes the case may be stated in this bare and definite way, though one does now and again hear of cases in which the diagnosis of chronic Bright's disease has been made upon apparently unequivocal evidence, but life has not, in consequence, been unduly short. Professor Gairdner said, in the discussion on albuminuria at the Glasgow Pathological and Clinical Society in 1884, "There is no doubt that the immense importance attached to the pathology (*i.e.*, the pathological anatomy) of the kidney since the time of Bright has tended to create an impression that what we call Bright's disease is more hopeless and more incurable than it actually is. It has been over and over again observed, in the history of medical research, that the first flush of pathological enthusiasm has for one of its results to concentrate attention on the dead body, and thereby to throw into the background the early stages and curable forms of disease. The gloomy prognosis, the gloomy aspect, which has been given by the relatively too assiduous attention to pathological anatomy, and by our not being always able to follow out for a sufficiently long time our clinical experience tending in the direction of cure, still clings to the pathology of this very important subject. Nevertheless, I think every practitioner who has had a large enough and long enough experience, and who has been able to keep many of his cures long enough in view, must have satisfied himself that very ugly-looking cases of Bright's disease, and even cases of the forms that are most regarded as incurable, sometimes come to something like suspension, or at all events to a modified cure for the time during which they are under observation."

Still our difficulty here is, as in most other diseases, the interpretation of physical and other signs observed during life. All Professor Gairdner's warning means—and it means a great deal which ought constantly to be borne in mind—is this: that the same external manifestations do not always mean the same internal structural defects. There can be no doubt of this did certain conditions of the urine, and certain conditions of the heart and vascular system, with dropsy and certain symptoms of a less objective character, *always* mean, say, the large white kidney as we know it in the *post-mortem* room, such certain conditions of the urine, and other signs, would always mean death, and nothing less; but it is not so, and this is the important fact to grasp, though the fact is, I fear, only very occasionally to be observed.

Dr. Grainger Stewart[1] has recently, in a paper to which I shall again have occasion to refer, divided cases of albuminuria into those which are dangerous to life and those which are not so. This classification, which differs very little from those I have already indicated, simple and obvious as it is, is all that is really required from the patient's point of view, and by consequence from the point of view of the practitioner, for I need scarcely say the presence of albumen in the urine is, *per se*, of no importance whatever; it gives rise to no inconvenience to the patient, and even when most profuse constitutes no serious drain upon the system; but it is a condition easily and readily demonstrated, and consequently has come to be regarded as the outward and objective sign of some derangement in the urinary organs, specially the kidneys, and as such to always require the most careful investigation.

It is from this point I would venture to look for a few moments at Bright's disease, as manifested by conditions which result from impaired normal functions of the kidneys, the conditions to which the term, uræmia in its wider and generic sense may very properly be applied. The *raison d'ètre* of the kidney is, no doubt, the elemination of the products of nitrogenous destruction, mainly in the form of urea. The water, though an excellent vehicle for such solid matters, is by no means an important factor. Were it necessary to get rid of water by other channels than the kidneys, such channels are ready to hand in the skin and lungs. We now know, whatever the *modus* may be, that when the amount of nitrogenous material separated by the kidneys falls below a certain point in quantity, that certain symptoms very soon arise. The most common and most

[1] Delivered in the Post-Graduate Course at the Leeds General Infirmary.

[1] *American Journal of the Medical Sciences*, January, 1887, p. 34.

important condition in which this happens, is that in which the kidneys are the seat of those changes which constitute in one of its many phases Bright's disease. This condition is, I would say, constantly accompanied by the presence of albumen in the urine, in very varying quantity, but albuminuria there is always. The exception usually made to this rule, in the case of granular kidney, I believe to be based upon very doubtful observations.

We have, then, at least two methods at our disposal for investigating the functions of the kidneys; a third method, that of the direct examination of the organ by means of touch, is practically useless, and altogether unavailable for our purpose. The two methods I refer to are the observation of certain manifestations, due to the retention of urea and its congeners in the system; and the second, the direct examination by chemical procedure of the urinary secretion in this respect. This latter is usually the outcome, and so to speak, the graphic representation of the former. It is to the former that I wish now to direct your attention.

This serious chemical defect in the blood must of necessity make itself felt continuously and uniformly, so long as it exists upon all the tissues and organs of the body. The manifestations then of the conditions will be as various as the ever varying conditions of the organs in health themselves. The nervous system, the respiratory system, the circulatory system, and so on, all suffer in their own peculiar ways. The general and obvious uræmic condition is one too gross to need description, but it is on the other hand important to recognise the fact that there may be one single manifestation attaching to one single organ or system, which surely indicates the presence of a grave, and it may be a mortal condition, far advanced, in one who to the superficial observer may be in perfect health.

First of all I shall speak of the shortness of breath occurring in those suffering from chronic renal disease. Persons the subject of chronic albuminuria are liable to many conditions causing shortness of breath, such as pleural effusion, inflammatory or otherwise, pulmonary œdema, cardiac failure, and the like; it is to none of these I refer, but to a form of shortness of breath having several varieties which is not explained by any physical conditions, including those I have mentioned. This dyspnœa is just as purely a functional disturbance of the nervous mechanisms involved in the respiratory process as the uræmic convulsions is of the nervous mechanisms involved in the movement of the limbs. This nervous character of the shortness of breath in question has long been recognised, and is clearly admitted, in the name which it has long borne of uræmic or renal asthma. The fact that people, obviously the subjects of renal disease, suffer from a functual shortness of breath has long been known, but the point I wish to make is this: that not unfrequently patients present themselves for the shortness of breath alone, who have not, and never have had, any of the ordinary systems of chronic Bright's disease. So far as my experience goes this uræmic dyspnœa without uræmic symptoms is just as frequently overlooked as the same shortness of breath occurring in diabetics who are free from lung or cardiac complications. The dyspnœa of uræmia proper may be simple and continuous, with occasional exacerbations of a spasmodic type, and perhaps this is its commonest form, and a form of which the uræmic origin is most commonly overlooked. A typical case of this I saw only a few days ago. A stout, rather pallid woman, with marked stigmata on the cheeks, æt. fifty-three, presented herself, complaining of shortness of breath, sinking and low spirits. This dyspnœa was quite obvious, even after she had been lying on the couch for some minutes during an examination of the chest and the abdomen, and varied from twenty-eight to thirty-six or forty respirations in the minute. The examination of the chest revealed nothing abnormal. Even the heart made no suggestion of albuminuria, and I very much believe that the dependence of all her trouble upon the renal condition would not have been determined except for the routine examination of the urine of all patients, which rule I endeavour to follow as consistently as circumstances will allow. The urine was pale, copious, perhaps 100 or more ounces in the twenty-four hours; had been noticed to froth much; of sp. gr., 1008, and loaded with albumen. Other indications of the woman's real condition there was none. No uræmia either of legs or face; no hardness or slowness of the pulse, except one thing, she had vomited, and vomited frequently in the early morning before taking, as well as after her meals. Still till after the examination of the urine, even this did not impress me any more than it had impressed a most reliable practitioner, under whom she had been treated for some months as a case of dyspepsia, and other ailments incident to a toothless woman of beyond middle life. The moral of this and similiar cases would be, if I dare venture to point to it, examine the urine of all patients at every and any opportunity, and especially in all cases of shortness of breath not clearly explained by lung or heart condition. Examine it both for albumen and sugar, for though I have seen many cases of dyspnœa dependent upon an undiscovered albuminuria, I have seen as many dependent upon an unobserved diabetes. We are so constantly misled by the statements of patients. A simple inquiry as to whether the urine is natural or healthy, whatever the term may be, being usually answered in the affirmative if it is the copious urine of Bright's disease or diabetes, and in the negative if it is the rather concentrated urine, loaded with lithates which most of those who are in good health are in habit of producing. I believe a good plan in making inquiries in this matter is one which I have adopted in the out-patients' room, that is, to always ask directly for nocturnal micturition and its frequency, and in the case of men always when possible to see the patient micturate.

To revert to the uræmic dyspnœa, another interesting example of the condition occurred in the case of a man, æt. forty-six. Ten months before admission he had been much exposed to wet and cold from which he suffered much, but in no definite manner, and was able to go on with his employment. There had been no œdema of the leg or face, or change in the urine noticed at the time. He had attended in the out-patient room here for dyspnœa, without physical signs, until one day the legs being found to be œdematous, it was thought necessary to admit him into the house. His breathing than even when lying undisturbed in bed, was thirty-six in the minute, and the respiratory movements were prolonged and laboured. On auscultation, corresponding alterations of the breath sounds were heard, but no adventitious abnormal sounds were observed. He was passing an average of fifty ounces of urine daily; sp. gr., 1018; loaded with albumen. The subcutaneous injection of pilocarpin in half-grain doses relieved him more than the use of nitro-glycerine, which was at that time coming into fashion in the treatment of uræmia.

Another case under my observation at about the same

time showed dyspnœa of a distinctly Cheyne-Stokes, or ascending-descending type. This form of breathing is seen in many cases of uræmic coma, and in coma from any cause; also in some forms of cardiac disease, but is not commonly, so far as I know, known to denote the uræmic state in its milder degrees. In this case the average breathing was forty-four per minute; urine, sp. gr., 1020, and loaded with albumen. *Post-mortem:* the kidneys weighed eighteen ounces, and had appearances rather of granular and interstitial veins than of large white forms. The heart weighed thirty ounces. Of the paroxysmal forms, closely resembling spasmodic asthma, I have seen no example, and of the form coming on in exertion and so simulating aortic disease, I have seen no case, but Dr. Howard,[1] of Montreal, has recorded a case of uræmic dyspnœa coming on only on exertion, and also to make the likeness to aortic disease more complete, accompanied by anginiform seizures. Œdema of the glottis as a cause of dyspnœa in acute Bright's disease is well known, but its occurence in chronic cases, though recorded, seems to be of great rarity. I need scarcely say that we are dealing only with a symptom, though one of a very distressing nature, and one which naturally strikes the sufferer more readily than slight œdema of the ankles or some change in the urine as the case may be, and it is for the reason that this may be the only aspect of the case which is presented to us, that I have ventured to bring it before you in this manner. The condition admits of no treatment other than that of the uræmic state upon which it depends. The asthmatic cases would probably be benefited by the use of the various preparations of the nitrites, or any of the well-known anti-asthmatics. Otherwise pilocarpin, digitalis, hot-air baths, and other diaphoretics, will meet the cases so far as they can be met.

(*To be continued.*)

Special Articles.

HEALTH RESORTS OF THE WORLD.

XXIV.—THE RIVIERA AS A WINTER HEALTH RESORT FOR TROPICAL INVALIDS.

By J. E. FISHBOURNE, M.D., F.R.C.S.I.,

FORMERLY ON THE MEDICAL STAFF IN INDIA, EGYPT, ETC.

IT seems almost to require an apology for making an attempt to dilate upon the Riviera as a winter health resort, the subject having already been, apparently, so thoroughly threshed out by various writers, yet as my enquiries have so far led me to believe that the location has not hitherto been considered as a winter and spring health resort, more especially for those whose health may have suffered either from prolonged residence in warm climates, or from actual disease incurred therein, it has occurred to me that some remarks on the suitability of the locality for such persons, or invalids, might not be thought amiss, especially as having had nearly a quarter of a century's experience of tropical and semi-tropical countries and their diseases. Therefore the subject may possibly prove of interest to those members of the profession, who not having had an opportunity of visiting foreign countries and studying their complaints, may nevertheless be called upon to advise patients suffering from diseases of hot climates as to the most suitable winter and spring health resorts for their maladies. To such a perusal of these notes may perhaps help somewhat towards doing the best for the sufferer; and if of use to only a few, the labour may not be quite thrown away. Having had, as said above, a pretty extensive practical acquaintance with such diseases and their treatment, I do not therefore approach the subject without some show of reason. Again, having observed on many occasions the ill-effects of a sudden change of climate from the burning plains of India, to the too often cold, foggy, damp climate of old England, on invalids suffering from tropical disease, it may be allowed to be an additional reason for venturing to put these remarks before the profession, as perhaps the personal experience of one who having himself suffered from long residence in India, etc., and who has also experienced the benefit of a winter and spring residence on the Riviera for old Indians and their disorders, may be of some account. Nor is the subject by any means a new one to many, as for a number of years past it has been a matter of frequent notice by those medical men brought much in contact with tropical invalids how seriously the sudden change, from the warm dry climate of India to the cold, damp, foggy climate of England, often affects their case, and how difficult it is under such circumstances to hope for improvement till the patient becomes "re-adapted," as it were, to the change. So much had experience forced this baneful influence on those medical men who have had most to do with invalids from warm climates, that they have frequently thought it advisable to recommend them to try, as soon as possible after arrival in England, a more suitable climate for their cases; and my object is now to endeavour to draw attention to the fact that within thirty-six hours of London we have a most suitable winter and spring health resort for such cases, as far as my experience enables me to judge.

Now, the advisability of getting many tropical invalids out of the chilly, damp climate of Great Britain during winter and spring is an old story, and one that had received notice many years ago by the medical men at Netley, in India, and elsewhere. So much so, that the English Government went to large expense in establishing a hospital and sanatorium at "Suez," where suitable cases, invalided from India and the east during winter and spring months, might be disembarked *en route* to England, and left till the weather at home had become milder, and less likely to injure their health, or they had become sufficiently recovered to proceed. But anyone who knows Suez will perhaps agree that it is not by any means an interesting or lively spot after a week's stay, and that although the manifest advantages of its winter climate for tropical invalids was allowed, yet its dullness and isolation made it a most unwished-for place to be left behind at, and that invalids preferred all the risk of going straight home. In vain did their medical attendants expiate on its advantages for their complaint, and the chances of their health soon becoming sufficiently restored so as to enable them to follow on as soon as the weather further north had become milder. No doubt it would be difficult to make Suez either lively or interesting, but the fact was forgotten, or perhaps had to be left out of consideration, that invalids and sick people require some amusement and distraction as well as ordinary mortals, and that something besides physic and regimen is often requisite to aid towards recovery. So the place became gradually disused, and was hardly likely to become a fashionable health resort, as invalids before long wished themselves out of it, so that being left there became dreaded, and an order

[1] *Canada Medical and Surgical Journal*, November, 1884, p. 193.

to proceed home highly desired. However, be that as it may, as whether the sanatorium was considered hardly worth the expense, or whether other reasons led to its gradual effacement, deponent knoweth not, but it became deserted, except during the Soudan expeditions for sick and wounded soldiers, when its value was recognised again. It was no wonder invalids did not take to the place, for who that has spent long years of exile in the far east cannot but know what a magic effect the thought of going "home" has on the sick and weary exile, or the wonderful tonic and bracing effect the idea of being soon amongst one's own kith and kin once more exerts on the poor debilitated sufferer. But, alas! the medical attendant has often to notice with regret how soon this tonic effect wears off, and that only too rapidly the novelty of being at home again fades away, the patient remaining either at a standstill, making no further progress towards recovery, or even getting worse, the cold, damp, chilling climate of an English winter, or spring, acting prejudicially on the tropical invalid. Here it is where I believe the medical attendant is wise if he recommends the sufferer to seek a more genial climate, and why I am anxious to call attention to a climate and locality admirably suited, in my humble opinion, for such cases.

Now it hardly requires a medical training, or experience, to grasp the fact that the cold damp of our English winter and spring must have a prejudicial effect on many tropical invalids, and do much to retard their recovery; and why? Because the resident of a temperate climate, who has spent long years in a hot, dry climate, like that of India, must have his internal economy —as it were—more or less put out of gear and disarranged by the sudden change home, the skin, amongst other functions, being accustomed to act very freely in the hot country, the kidneys being thus relieved of much of their functions, and the liver called upon in India to do a lot of extra work for other organs. Now the change of climate must necessarily considerably disarrange all these organs, the cold, chilly weather, etc., having the effect of driving the blood from external parts to the internal organs, and those organs already perhaps damaged by disease. The alimentary tract and digestive system, as well as the nervous organisation, have also probably suffered, or are the worse for long tropical wear and tear, so that although the medical man treats the case most carefully and well, he finds his patient does not improve in health. But my experience leads me to believe that a change to a winter climate like that of the Riviera, where three days out of four are bright and sunny, gives the patient, as well as the doctor, a much better chance, and remedies applied before in vain get opportunity of acting beneficially. And this is not theory alone, as I am able to vouch for the wonderful improvement soon visible by the change. For not only is the thorough change of air most desirable and grateful, but the complete change of scene, as well as the dry bracing air, fine sunny days, enabling the invalid to take out-door exercise, all tend to put new life and hope into the sufferer. Now most medical authorities are agreed that the climate is a moderately dry, stimulating one, admirably adapted for convalescents after most debilitating diseases, but on this point I hope to say a few words further on.

I will now proceed to make some few remarks on the climate and physical geography of the Riviera for the information of those who have not the large guide books and medical works on the subject at hand, or perhaps leisure to wade through them. A glance at a map will explain the reason why the "Riviera di Ponente, and Levante" enjoy such a mild winter climate, equivalent to that of countries many degrees further south. For on the north we have the Maritime Alps and other ranges of mountains, protecting us from the north and north-west winds, and to some considerable extent from north-east also, which blow over our heads, and curl the waves of the Mediterranean into "white horses" many miles out. We are therefore placed, as it were, on the south side of a high wall, basking in the sun, whilst well sheltered from the cold winds of Northern Europe. The wall of limestone which protects us absorbs a quantity of heat during the day, helping to make the night air warm and genial. We have, of course, no thorough immunity from all the winds that blow, as naturally the heated air ascending causes currents from colder regions to arrive to fill the gap, as it were. Of these the "*mistral*," or north-west wind is the most important, but from this we are well protected at Monte Carlo, the hills on our north-west keeping it from disturbing us much. A north-east wind sometimes blows as well, but seldom, and from this also we have ranges of hills to break its force. We also have occasionally a south, or south-east, wind, the "*sirocco*" from the African coast, which is laden with moisture after crossing the Mediterranean, causing rain, but is a rare visitor. The temperature during the winter and spring months seldom falls below 50° Fah., except at night. For instance, Monsieur de Brea, a French authority, gives the mean annual temperature of Mentone, a few miles to our east, during ten years observation, as 60.8° Fah.; whilst Dr. Henry Bennet, after twenty-five years observation, puts the winter and spring temperature as 51.7° Fah., and the mean difference between wet and dry bulb thermometers during winter and spring months as 5.1° Fah. only. Sir James Clark gives the mean annual temperature of Nice, ten miles on our west side, as 59.48° Fah., or say 60° Fah. in round figures, with a winter and spring temperature of 52.05° Fah., which closely agrees with those of the observers at Mentone. The mercury seldom touches freezing point, and then only at night during very severe winters; in fact it is most unusual for it to reach 40° Fah., so that frost is almost unknown, and "*like angels visits, few and far between.*" Snow is also a rare visitor even in hard winters further north, and then only a few flakes, which melt as they reach the ground. Fogs, too, are practically unknown, the only approach being mists on neighbouring hills at times. Winds, as I have said, are kept off to a great extent by our ranges of protecting hills, and seldom cause annoyance, or keep people indoors. In consequence, dust is rarely seen, a great comfort for invalids. Again, the invalid can safely count on three days out of four being fine enough for out-door exercise from 10 to 4 p.m., as Nice shows a rainfall of twenty-five inches yearly, or thirty-six rainy days only during winter and spring months, Mentone exceeding that amount somewhat, they say. The climate can therefore be said to be a dry one, with a mild stimulating effect on most invalids. Monsieur de Brea, the French meteorologist, gives Mentone as enjoying 214 fine days with sunshine, without clouds; forty-five with some clouds, but sunshine as well; twenty-four fine days without rain, but cloudy, no sunshine; and only eighty days in the year during which rain falls, but of these many are not pouring wet days, as the sun shows itself during a considerable number. Let those at home, perhaps accustomed to four or five wet winter days a week, ponder over these facts.

When it does rain it sets its mind to it well, getting over the salutary and needful process quickly.

Another climatic peculiarity, interesting to invalids, is that the mean annual difference between the maximum temperature during the day, and the minimum during the night, exhibits a range of only 12° Fah., showing a very equable temperature, and disposing of the fallacy that the climate of the Riviera is a moist one. There is one matter which it may be well to draw the attention of invalids to, and that is the necessity of being indoors always before the sun disappears behind the western hills, as sundown is a "dangerous" period of the day, becoming suddenly cold and chilly, and apt to cause colds and chills to invalids, or even healthy individuals, unless warmly clad. It is therefore judicious for all to be home in time to escape the chilly period, which soon passes away, and is succeeded by soft warm evenings generally. The cause of the above conditions of temperature is no doubt due to the ascent of air heated by the sun's rays, and the rushing down of cool air from the mountains to replace it. Nature herself, a sure guide, affords ample proof of the mildness of our winter climate at Monte Carlo, for on looking around what do we behold. The delicate and heat-loving lemon tree flourishing in profusion, the orange, the olive, numerous palms, as well as the eucalyptus, growing in the open air, and flourishing all through the winter. The invalid may also feast his eyes on roses in full bloom on Christmas Day, and heliotrope, as well as violets all through the winter. Again, we may behold geraniums and pelargoniums begin to flower in March, as well as different species of mesembryanthemum. Varieties of chrysanthemums and cacti flourish in the open, the former in flower in December. Petunias, carnations, and violets, also many kinds of salvias, nasturtium, and marguerites bloom in the open all the winter. Cypresses, pines, bananas, and bamboos in profusion, as well as aloes, whilst growing wild we can pick numerous wild flowers and shrubs, such as wild thyme, rosemary, pansies, violets, myrtle, etc. Habrothamnus elegans, ageratum, osteospermum, and datura stramonium flower all through winter; also petunias flowering in February. Carnations, wall flowers, and pinks flower early in spring; narcissi and tulips also begin to flower in January and February; also crocuses and snowdrops, as well as ranunculi and salvias. Ficus roxburghi, imperialis, and schaufieri; also aralia dactilifolia and humboldi; also bonquaimilea glabia and spectabilis grow at Monte Carlo in the open, but no where else on the Riviera, I understand.

But I think enough has been said to show the mildness of our winter climate at Monte Carlo, which most people, who are not interested, allow to be as fine, if not better, than any other place along the Riviera, it being, as said before, so shut in and well sheltered from cold winds, etc. A visit to the beautiful gardens of the "Cercle des Etrangers" ought to convince any person, knowing something of horticulture, that the winter climate "*must*" be a mild one to permit the flowers and plants he sees there to flourish in the open air all through the winter season. The advantages of such a winter and spring climate for tropical invalids need hardly be enlarged upon, enabling them to spend so much time in the open air, if strong enough, particularly of use for those convalescent after any debilitating illness, and acting in a mild stimulating manner on the whole system; in fact, a "climatic tonic."

One great feature in its adaptability for invalids is its comparative "*proximity to England, and its easy access.*" For instance, London can be left one morning, and the Riviera principal health resorts reached in time for dinner next evening, travelling in quick through trains, with sleeping carriages attached, without changing, if desired, once the train is boarded at Calais. The "train de luxe" is also a luxurious, but expensive, mode of coming out, as it travels rapidly and comfortably, without the necessity of changing—a great advantage for sick or weakly people. If desired, invalids on the way home could disembark at Malta, whence Marseilles or Genoa can be easily reached by steamer, or the Orient line will land them at Naples, whence the locality can be easily reached; or, if preferred, a sea voyage by the P. & O. Steamer to Marseilles from Gravesend, and then on by train to destination; in fact, there are many other routes, but this will suffice to show its accessibility. The accommodation for invalids is also good, as the hotels are fitted up in a most comfortable way, and the food and cooking excellent. Many hotel proprietors will take visitors *en pension* from ten to twelve francs per diem, or if rooms with a good south aspect are desired, a little more is asked. Villas are expensive, from 4,000 to 5,000 fr. and upwards, furnished with linen, plate, etc., for six winter months, but these would only suit should family accompany the invalid, and his means be good. Again, furnished rooms can generally be had at a much lower figure, the convalescent having his meals, if well enough, at some restaurant. Some of these restaurants are reasonable, giving a really fair dinner, wine included, for three francs, and breakfast for two francs. Furnished flats can also be hired at most places, and if two invalids "chum" together, comes to a fairly moderate figure. The food and cooking is generally excellent, and a thorough change, tempting the appetite, which, however, is usually soon restored, provided the invalid can take sufficient outdoor exercise, the air acting as a wonderful tonic. Warm sea baths can be indulged in almost all through the winter, the sea water being seldom below 50° Fah., so that up to December it is possible to bathe in the open air, provided the patient is robust enough. Should carriage exercise be desired, capital little victorias, with a pair of ponies that travel well, can be hired for three francs the hour. The clothing, of course, should be suitable. Serge, woollen, tweed, or flannel, with a couple of top coats, one good thick one for driving, and a lighter one for walking. Neutral tint eye preservers are also most useful, and a wide-awake (or terai) hat very convenient.

The French language will carry one anywhere, and the expenses need not exceed one pound per diem at outside. But if desired it can be done much cheaper, provided the invalid can get about and take care of himself. The season lasts from the middle of October to the middle of May, which is quite soon enough to travel home again. But should circumstances not permit, the invalid might arrive about the middle of November, and stay till the middle of April. Now what are the reasons for recommending the Riviera as a suitable winter and spring health resort for tropical invalids? Given a climate like, what I have endeavoured to touch upon, even the fringe, and given the fact that most medical authorities consider it so admirably suited for various lung diseases, for gout and rheumatic complaints, for disease of the kidneys, and in fact as a "tonic" for convalescents from most debilitating diseases, my idea is it must also be suited for invalids from hot climates; and why?—because it enables them to be out of doors three days out of four; because it improves their appetite, gives refreshing sleep (except in a few

abnormal instances), allows the skin to act, and do its share of blood purification, gives the lungs a chance of breathing a bracing atmosphere, not too moist, nor yet too free from moisture; improves digestion and liver action; in fact braces the whole system up, whilst delighting the senses. Given such a climate, which is, as said before, so generally allowed by experienced physicians as an excellent one for most lung complaints, especially of any inflammatory origin; which is of great benefit to rheumatic gouty constitutions; which allows the skin to act and relieve diseased kidneys of extra work; which does not drive the blood by cold into internal organs, therefore relieving the liver, kidneys, spleen, and intestinal tract from danger of congestion; which allows the patient to inhale an abundance of fresh air, and take exercise most days in the week; which wards off to a great extent dangers of bronchitis, and is so often of marked benefit to the asthmatic and emphysematous lung sufferers; which is frequently of signal service to neuralgia, relieves the dyspeptic, is found to be markedly suitable for the aged, most salubrious for children, who instead of being cooped up indoors in England most days of the week, can run about in the open air almost any day, and bathe in the sea ten months out of the twelve. May I not therefore say that a locality suited for all such cases must also be admirably suited for invalids suffering from the effects of tropical disease, or debility, or broken down by repeated attacks of malarial fever and ague, or with enlarged liver, or weak intestinal action after dysentery, diarrhœa, or enteric fever; or those recovering from the effects of sunstroke; in fact, any invalid almost, requiring a nice winter bracing climate, cannot, in my opinion, do better than give the Riviera a trial. Far better than remaining cooped up in London lodgings, with cold and fog as an almost everyday companion, with a wish to be able to breathe the fresh air of heaven, which cannot be indulged in, however, without graver risk in our variable English winter climate. Should the medical attendant have such a tropical invalid who does not improve in spite of all his care and judicious treatment, let him advise him to try a stay in the sunny south, a change from the fog, cold, and darkness of a London winter's day; almost "like a fairy scene," as I have heard those who have tried it exclaim. I am sorry it has not been possible in a short notice like this to enter more fully into the medical aspects of the question, but feel sure that medical men will be able, by their own experience, to fill up any gaps for themselves. My object will be gained should they only be led to ponder the matter over in their mind in case they come across patients from warm climates, who they consider might benefit by the change of air, scene, food, etc., such as I have attempted to describe.

XXV.—THE LINCOLNSHIRE FENS.

Almost exactly midway between Boston and Lincoln, on the left hand bank of the Witham, the attention is arrested by a noble, red brick tower rising to an elevation of a hundred feet above the plain. With the exception of Layer Marney Tower in Essex, a grander structure of the kind is not to be found in England. That splendid specimen of fifteenth-century brickwork is Tatsall, or, perhaps more correctly, Tattershall Tower; it owes its existence to Lord Treasurer Sir Ralph Cromwell, and was built between 1430 and 1440. It was a time of transition between the Middle Age and the modern era: life and property were becoming more secure, though occasional tumults and out-breaks were still to be feared: the mansions of the nobility, although no longer requiring to be massive castles, primarily intended for defence, continued to need sufficient strength to resist an assault: hence their thick walls and embrasure-like windows. The country round Tattershall is attractive in a certain curious fashion. Hills there are none, woods are scarce, trees are small, and miles may be traversed without passing anything beyond an occasional bush, but it would be incorrect to describe the scenery as tame and uninteresting. The rich soil, the luxuriant grass, the splendid crops, and the slow moving rivers, speak of plenty and enterprise. Moreover, the contrast between mid-Lincolnshire and the undulating country south-west of Salisbury is very marked, and the visitor is all the more struck by it if, as has happened to me often, he is fortunate enough, in the course of a summer day, to pass from Woodhall or Kirkstead to Axminster or Honiton. The contrast is undoubtedly pleasing, while there is something indescribably exhilarating in the interminable plains of the Fen Country—a sense of illimitable vastness, of boundless freedom unfelt in those lovely but narrow southern valleys, which in another way are so soothing and so peculiarly English. Some of my readers, whose lot has fallen in typical woodland scenery, in the midst of green shady lanes and lofty timber, may see little in the Fen Country. But what pleasure fills the visitor from the noisy and smoky towns of the West Riding and of Lancashire, when he gets to a part of the land where smoke is rarely seen, and the towns have much of the tranquility of nature clinging to them.

How Kingsley loved the Fen Country, and how well Tennyson has entered into the spirit of its scenery, its breezy freshness of atmosphere, and its beauty! Nowhere in England are the churches loftier and nobler! and nowhere else is the number of stupendous ecclesiastical edifices larger. Almost every little town boasts of the remains of an Abbey or Priory of the first rank, while some of the spires are lovely triumphs of art. I do not envy the man who could stand under the mighty Lantern of Ely and not perceive that the vastness of the great eastern plains must have inspired its designers and builders to commence and complete their Titanic labours! In the distant past, when the waters extended for leagues and the Hill of Ely rose a veritable isle in the midst of the floods, the mighty Cathedral must have resembled an ark resting on the sea. The country has the same character for many a league,—on past the magnificent temple of Peterborough, that, had money permitted, would have been crowned with a loftier spire than than of Salisbury, one which would have been seen fifty miles round,—on past the colossal tower of Boston, on, still to the north, to where the splendid pile of Lincoln dominates the town, and is a beacon to the surrounding country. What must Lincoln Minster have been before the ruthless hands of destroyers hurled down its heaven-pointing spires! We shall never rival those old monkish architects: they built for God and for eternity: one generation after another was content to raise a few additional feet of massive walls, leaving to the next the continuation of a task, which none who commenced it could hope to see completed. We build carelessly and hastily, and our work, devoid of beauty, conceived and carried out with little sense of religion, answers its purpose well enough and is swept away in a generation or two to be succeeded by other buildings as uninteresting and as little likely to resist the storms of many winters.

The Broad Tower of Lincoln is one of the grandest works that ever came from mortal hands. It rises 244 feet four inches to the gutter, and 271 feet two inches to the top of the vane: it once served as the base for a tall spire of timber, covered with lead, that rose 250 feet higher. The total altitude was 525 feet, or 121 feet loftier than that of Salisbury. This prodigious masterpiece of art was destroyed by a hurricane on January 31st, 1548. The great western towers continued to terminate in tapering spires till 1727, when the Dean and Chapter commenced taking them down. An excited and furious crowd collected, and the authorities were compelled to give way, and this time at any rate a popular tumult did good, and was justifiable. But in 1807 the impious hands of the treacherous custodians of the sacred edifice had full play, and the Dean and Chapter were not disturbed in a second and more successful attempt to remove the western spires. A few years ago some survivors of that remote age, could still tell strange tales of the loveliness of those matchless spires.

At Boston the handsome font, given by Mr. Beresford Hope, is a pleasing memorial of that good and generous man, who loved his country well, and her ancient Church still more. His zeal did much to give loftiness of aim and fixity of purpose to church-restorers who found his ample purse always ready to assist.

Somerset perhaps excepted, there is no part of England so remarkable for its innumerable abbeys, castles and ancient churches as Lincolnshire and the adjoining region: Selby, Louth, Grantham, Newark, Southwell, Fountains, Kirkstall, Beverley and Croyland are a few of the names that crowd into the mind. But Somerset, though remarkable for its grand towers, built under the fostering influence of Glastonbury, is not rich in spires and in vast churches, nor interesting for its castles.

Not far from Tattershall the train stops at a little junction —Kirkstead, where a grand Cistercian abbey, an offshoot of Fountains, was founded in 1131; only some insignificant remains mark the spot where it stood. A single line of rail connects Kirkstead with the sleepy old town of Horncastle, and a mile and a half from the former there is a plain and unpretending station—Woodhall Spa. A curious sight meets the eye—a town is being built, springing up with American-like rapidty from the plain. The spectacle is so unusual that one looks round with wonder for an explanation. No lofty chimneys meet the eye: no vast ranges of factories, no docks, no coal mines account for the sudden uprising of a town. The promoters of the place have had signal advantages; they had an unoccupied site flat as a table, and owning in their corporate or private capacity, all the country near, they with great judgment cut broad and straight roads parallel to the line, and built houses which for beauty, quaintness, and perfect sanitary conditions, leave nothing to desire. Moreover, they drained the plain in the most approved modern fashion, so that no water lies more than a few hours, and the day following heavy rain the roads are usually perfectly dry; the moderate rainfall of the district helping materially in making and keeping the place dry.

The rise of Woodhall has been curious and interesting. Many years ago borings for coal were begun, and vast sums were, as it appeared, thrown away on unsuccessful attempts, indeed, tradition says that £20,000 were lost. A shaft was driven to a depth of a thousand feet, and the workmen were much inconvenienced by the inrush of water; the latter was finally cut off by a wall, and the shaft had to be diverted from the perpendicular. After a time it was discovered that this water had properties making it of incalculable value in the treatment of disease; and in addition to the more ordinary constituents of mineral springs—common salt, carbonate and sulphate and nitrate of soda—it was found to be very rich in free iodine, besides containing large quantities of iodates, iodides, and bromides, and traces of peroxide of iron. A medical man settled in the place, a hotel was built, and visitors in small numbers made their way thither. Little by little the water became more extensively appreciated, and a couple of years ago five gentlemen, among them Mr. Edward Stanhope, Sir Richard Webster, and Mr. Henry Chaplin, purchased the place and commenced developing it. The singular composition of the spring and its reputation in the treatment of gout, rheumatism and some other complaints, forced the medical profession to confess that benefit would result in many diseases from a course of treatment. Then commenced the rapid development of Woodhall. Last year and the year before houses sprang up everywhere—large, handsome, red brick structures with red tile roofs, the upper story slightly over-hanging the lower, thus giving a quaint, Swiss-cottage appearance to the place; new baths were constructed and an able medical superintendent appointed, a gentleman whose long residence in Germany, large knowledge of the world, and excellent business capacity, fitted him for his difficult post. In the meantime, as the value of the land rose by leaps and bounds from £50 an acre to £430 or more, the syndicate were wisely lavish in laying out capital, and providing sumptuous accommodation for the visitors who came in numbers that, at times, exceeded the limited capacity of the place. All through the past year the work of extension has continued. The hotel has had its accommodation doubled, £7,000 have been laid out on the baths, a handsome pump-room has been erected, with a gallery for music in wet weather, and a large band-stand has been built in the open air for fine days. The Victoria Hotel is now perfect and leaves nothing to desire; while, as for the baths, the services of Major Davis, of Bath, have been called into requisition, and he has spared neither time nor expense to fit up a place a credit to himself and an ornament to the town. Every kind of bath has been provided—steam, needle, douche and sitz, while trained attendants give the patients requiring it the benefit of massage. The pump-room is fitted with every convenience for taking the waters, which are as useful internally as externally, and for which an enormous general demand has sprung up. The last medical novelty—the pine bath, can also be given at Woodhall to perfection, while the fittings of the bathing places are costly and are made of aluminium.

This is not all: greater attention is being given to amusements and sports than at most rising English health resorts, and the tennis lawns, the terraces beautifully adorned with handsome screens to cut off the wind, and the arrangements for music during the season, show that far sighted policy has ruled the plans of the managers. The enormous outlay incurred cannot, however, for years be remunerative, though no doubt the proprietors will not be losers in the long run.

I have spoken of the flatness of Lincolnshire and the absence of trees, but Woodhall is remarkably favoured; an extensive larch plantation adorns the place, and gives the hotel and the baths almost perfect shelter, while the size of the trees, the sweet aroma they diffuse, and the beauty of their scarlet flowers, are additional attractions.

The plantation, the baths and the hotel stand very near the station on one side of the line; still closer to the latter. but on the same side a couple of handsome blocks of picturesque shops have been built, and so great was the rush to Woodhall that it was curious to see that many half-built shops were occupied and apparently doing a large business, although the workmen were still hard at work upon them. The railway authorities have also acted prudently, and have purchased long strips of land for widening the line and building a large and handsome station, and late trains will, during the summer, run on Saturday nights to Horncastle, Lincoln and Boston. The town stands on the other side of the railway, but close to it; and in these times of depression it is refreshing to see such enterprise and activity, and to read on many notice-boards that the site is sold.

The syndicate and the railway authorities formally opened the Spa, hotel, and baths on Tuesday, May 22nd, 1887, with an official gathering, when an inspection of the place was made by a large number of invited guests. That was my second visit to the place. Three weeks earlier I had had the privilege of being escorted by the medical superintendent, Mr. C. J. Williams, and had been shown every object of interest. I felt, as I questioned him, first on one matter, then on another, that my visit was unlike any which I had paid to any other place—I was seeing a town in course of erection, a new birth among the health resorts of the land, and I experienced a sense of novelty that I shall not often know. As I stood on the platform in the early morning and looked at the sun, which had not long risen, I was again compelled to confess that Lincolnshire was not tame and uninteresting, but that one might get very fond of it and admire it as highly as the Welsh Borders and the Derbyshire Dales, with their noble timber, vast straggling hedgerows, and richly wooded heights.

Although I have described the Baths at some length I do not see why Woodhall should depend on them for its fame. With good fortune and skilful management it might in time become a great health resort like Cheltenham and Leamington, with many schools and a large resident population. It has disadvantages of position, which, however, handicap it, for unlike them it does not lie between great manufacturing centres, on a main line of rail. The branch connecting Lincoln and Boston, by which Woodhall is alone approached, is only a little frequented, cross country route and, still worse, Woodhall itself stands on a small branch leading only to obscure, dead alive Horncastle. Should Woodhall ever become an important place with a large demand for railway accommodation it may pay the Great Northern directors to give it a frequent service of trains, for both they and the Woodhall Spa managers must remember that it is the lower middle classes who build large towns and fill them, not the nobility. If the teeming hives of Yorkshire get to like the new health resort and flock to it, they will keep it full, and freely spend their money there, and a great future may lie before it.

SOME RECENT SCIENTIFIC ADVANCES.

By Alfred J. H. Crespi, Wimborne.

Scientific progress is continuous and distinguished by ever accelerating rapidity. Experts would have no difficulty in pointing out, year by year, the steps that had been taken and the direction in which further advance was certain and near. Not every year, however, would they have to record such triumphs as the introduction of saccharine, vanillin, and cocaine, but none the less could they point to discoveries, increasing the enjoyment of human life, diminishing the cost of living, and giving promise of still more rapid advance. Scientific discoveries are never made haphazard, though there is nothing on which the general public are less correctly informed. Were twenty most useful chemical compounds handed to a person not competent to judge of their value he would pass them by much as a labourer would fail to be struck by the finest passages of Dante and Shakespeare, and for the same reason—absolute inability to judge of their beauties and merits. Scientific discoveries are in these days, when the surface has been thoroughly explored, only within the reach of the highly trained investigator, who energetically and laboriously examines everything put before him, and no one but he knows how great are the manipulative dexterity and patient, untiring perseverance required to overcome difficulties. Hundreds of able enquirers are at this moment working in every department of science, toiling, thinking and experimenting, but in most cases with no advance to record, finding that the discovery they would make eludes their grasp much as the painter has often to turn to the wall, night after night, the canvas on which he has been vainly trying to portray features of ethereal beauty, but which he lacks the genius of a Raphael or a Lionardo da Vinci to call from out of his inner consciousness. When a discovery is proclaimed to the world of such a character as to captivate the imagination of mankind, and not one in twenty possesses the easy comprehensibility, and obvious utility enabling it to do that, it represents genius, patient research and vast attainments which only a few trained investigators can properly appreciate. People exclaim "What a wonderful discovery: what a lucky fellow," little understanding that he, whose name then comes before them for the first time, has shewn indomitable perseverance for years and deserves the same, yes and perhaps even greater fame than rewards the successful toiler in more popular walks. There is something so true and touching in the words of Dunsford in "Friends in Council" to his young girl friend—"always honour a scholar, my dear; if for nothing else, for the untiring energy, the sleepless toil which it has cost him to acquire that scholarship." And so, when we hear of some scientific advance we should never forget that it represents the labour of years, and that the one successful candidate for public recognition is perhaps the only man who has come to the front in a hundred who have striven to add to the sum of human knowledge, and who have seen summer fade into winter, and youth give place to age in the fruitless attempt. I have been fortunate enough to see much of some of these ardent students of nature, and I have known them live but to learn and discover; perhaps for weeks sitting up all night in the untiring struggle to master the mysteries of nature, hoping still in vain, yearning to inscribe their names on the long list of discoverers, and yet not unhappy in the midst of failure, for in the discharge of their self-appointed mission they have found happiness.

Sir Benjamin Brodie believed that observation, practice and thought were the chiefest means of self-training in science, but he did not underrate the value of labour—patient, well directed and continuous. On the day of his election as President of the Royal Society he remarked that he felt "his happiness to be in life of exertion." In my own case with no aptitude for scientific pursuits, lacking the patient application and accurate observation indispensable to the successful student of nature, I sometimes envy the men who have the power so to apply themselves, and half wish that I had been differently constitued so that I too

might have rejoiced in chemical researches or, like my clerical neighbour Augustine Chudleigh, have found more pleasure in dissecting a horse's foot or a rat, than in studying the masterpieces of literature.

Acquiring knowledge may at last become a passion giving a pleasure as keen as a constant round of gay amusements to persons of different temperament and less lofty ambition. Yet it must not be forgotten that this is a practical world, one in which men and women have to live and die, so that it is well that something fruitful should accompany the acquisition of learning. Professor Edward Freeman pours a torrent of biting invective upon the man, who looks for a substantial return for his labours, and who asks what good will result from learning. Mr. Freeman contends that anyone, worthy to be called a scholar, will toil merely to acquire knowledge and with no thought of future reward, and yet it is obvious that were not some thought given to the uses of patient and long-continued study, thousands of men might degenerate—I can find no other name for it—into mere bookworms, reading night and day it is true, but not increasing the sum of human knowledge, not enriching and enlightening mankind, but nevertheless having to be maintained by the labour of others. Surely the passion for knowledge as such may be carried too far and amount to little more than a clever man's hobby. Have we not all heard of the scholar whose wife, at the point of death, sent him an urgent message to hurry to her side, "Tell her," he replied, when he had with some difficulty grasped, so great was his preoccupation the meaning of the message "to wait a few minutes." Again came the imploring summons. Again the scholar pleaded for delay. And now he was informed that she was dead. He paused a moment, sighed, and resumed those studies, which had become dearer to him than life. There is something inexpressibly touching however, in the dying request of Lavoisier, that his death by the guillotine might be delayed for a short time so that he might complete some interesting experiments, and something not altogether unnatural on the part of the authorities—"that the republic did not want chemists."

Perhaps the field which at present is giving the greatest promise is chemistry applied to the arts of life. One can see no limit to what may there be accomplished. Not only is there a promise of far more durable materials, stronger drugs, and cheaper chemicals, but, above and beyond all else, a prospect of such advances that food will be built up in the chemist's laboratory, and inexhaustible supplies be poured into the market. Man has a tendency to multiply more rapidly than the means of subsistence: land can only produce a certain limited amount of food, and that is so dependent on the seasons, the latitude, and the depredations of insect and vegetable pests, that the actual yield from a given acreage falls, under the most favourable conditions, far short of the theoretical return. It is conceivable that the pressure of population might tax wide areas and demand more food than they could be made to yield. We have now nearly reached that limit in England: two thirds of our wheat and perhaps, on the average, close upon one half of all the food annually consumed in this realm is drawn from foreign lands. But supposing that chemical science should teach us to build up compounds, with dietetic properties equal to those of wheat and with nothing offensive to the palate, what a marvellous future might await the race, become independent of extraneous supplies. Many people will no doubt smile and assure us that the manufacture of such food, should it ever be possible, will not be economical and, therefore, not practically useful. But is there not continuous progress in theory and in practice: machinery is being rapidly perfected, human labour is being economised, and the stored up energy of the tides and rivers must before long be utilised. Later I shall have more to say about this. Let us by the way reflect on the energy that runs to waste in a single gale of wind, or in a single high tide off the coasts and in the rivers of our country. The stored up energy of all the coal in all the coal fields of all the world represents, in billions of foot tons, a mere fraction of the energy of the rivers of Europe, nay of England, and while the richest coal mines are soon worked out, and coal demands much labour for its transference from the bowels of the earth to the great centres of industry, there is just as much energy in the tides and rivers to-day as there was a thousand years ago. The wind too must represent an energy almost beyond the imagination to grasp. In a single heavy three days' gale the energy that could be extracted from a million of well placed windmills transmuted into electro-motor power, and properly stored would be worth untold millions and tens of millions of tons of coal. For motive power we shall not long continue to look to our coal mines: we shall utilise our rivers and estuaries, and perhaps learn to regard a stiff gale as an inexhaustible source of material wealth.

I can distinctly remember, when a little boy, seeing a brilliant electric light over the offices of the Elkington Electro Plate Works, in Newhall Street, Birmingham, on the occasion of the Prince of Wales's marriage. It was a marvellous achievement, and aroused general curiosity and attention—the wondering crowds looking at the dazzling light were a proof of this, but long after that time well informed people contended that the electric current could never be transmitted any great distance for practical purposes, and would always be ruinously expensive, while there was no possibility of its being divided. It was only yesterday, as it were, that we saw the exhibitions at South Kensington magnificently lighted up by electricity: The problem is solved, the current can be transmitted vast distances, houses and streets can be easily and economically supplied with it: nay more, its expense is rapidly diminishing, and holders of gas shares cannot doubt that before long, in spite of better methods of preparing gas, in main thoroughfares, churches, public buildings, railway stations and ships, the electric light will not only be the great illuminator, but that its economy over gas will be as pronounced as its superior lighting power. Of late marvellous progress has been made in that branch of mechanical art, which has as its aim the doing of work by means of the electrical current. Electricity, as every school boy ought to know, is no new discovery. Thales and his learned coadjutors wondered as they noticed that a piece of amber or *elektron*, when vigorously rubbed for a few minutes, attracted light bodies, and two thousand years and more later Dr. Gilbert, Queen Elizabeth's great physician, had got little farther in practical results than the Greek sages. Conjecture of course found an inexhaustible field in electricity, and Robert Boyle hazarded the suggestion that an invisible glutinous substance came out of resins and glass, when friction was applied to them, which seized hold of any light bodies within its reach, and then carried them back with itself to the place from which it had issued. Generations passed away and the powers of electricity, as we are beginning to recognise them, remained unknown: the matter continuing more one of curiosity than practical utility.

But the philosopher's toy of one age may be the trusty servant of the world a generation later, and watching the movement of pith balls and bits of paper has given us the electric telegraph of our day. The first practical step made in the application of electrical force to remunerative mechanical ends was due to Michael Faraday in 1830, and yet it was a poor little thing after all—a mere pigmy effort compared with the giant results of our day: it amounted to no more than showing how a magnet could be made to produce an electrical current in a contiguous strand of copper wire. The important point in this experiment is that it is not the vertical magnet that produces, in the small suspended needle, the disturbance, but it is the *movement* of the vertical bar magnet that moves the suspended needle, which only swings when the bar magnet is dropped into the coil or taken out of it. The electrical current is not the cause of the movement, nor is it the primary source of that movement: it is only the means of its transmission from the place where it originated to the place where it takes effect: it is simply a case of the conversion as well as of the transmission of force. The mechanical impulse is first of all transmuted into an electrical current, and then with more or less completeness reconverted into mechanical effort, when the produced movement is set up: in short the muscular effort of the operator's arm, by which the bar magnet is lifted or dropped into the coil, is absolutely and essentially transformed into the propagation of an electrical effort: that is, into an electrical current along the wire. It was Michael Faraday's arm that moved the needle at the end of the wire. I need hardly remind the reader that an electrical current is only energy in another form: in other words, electricity is nothing more nor less than one of the forms of energy, and heat can be converted into electricity, as can chemical action. This, therefore, means that to get a large amount of electro motive power available for human purposes either coal must be burnt, or wind used, or the energy of the tides and rivers economised and transmuted. But before coal can be burnt it must be worked, brought to the surface and perhaps conveyed long distances, and then transmuted into electricity: much of this costly labour would be saved if something cheaper, more abundant, and practically inexhaustible, like the tides, could be found, and it is to the tides I am convinced that, when certain mechanical impediments are overcome, we shall look for our motive power.

Two years after Faraday's discovery M. Pixii, a Parisian instrument maker, used a horse shoe magnet, mounted vertically upon its loop or curve in such a fashion that it could be caused to revolve in an upright position round and round. He placed two copper coils, each containing a bar of soft iron, standing vertically above the horse shoe magnet, with the lower end of each just fixed above the horse shoe magnet. By means of clever contrivances a very serviceable current was obtained from this ingenious instrument. His machine was practically the forerunner of the innumerable machines for the so called conversion of electrical currents into mechanical power, which have since that remote time—scientifically—been called into existence. Subsequently to Pixii's time the most important steps in the improvements of the apparatus were, "first, that a pair of electro magnets, with their engirdling coils, were made to revolve in close apposition to a suitable fixed permanent magnet: and then that a considerable number of electro magnets fixed upon the circumference of two circular bronze places were driven, the one following the other in rapid succession, between the poles of two large permanent magnets." The first modification we owe to Saxton and Clarke, while M. Alfred Niaudet gave us the second. The Alliance machine, constructed by M. Noblet at Brussels, memorable as being the first magneto electrical machine used to produce illumination in a lighthouse, was an extension of the Niaudet system.

In 1854 an important improvement in the construction of magneto-electro-motor machines was introduced by Messrs Siemens and Halske of Berlin: they found that even augmented currents could be produced when the coils of copper wire were turned lengthwise, over and under the revolving axis, instead of being bound spirally across isolated bobbins or cores, and so arranged as to be transported bodily past the stationary magnets, It would be difficult to over estimate what the world owes to the Siemens family of Hanover, London, St. Petersburgh and Berlin in the application of electricity to motor purposes, and the recently published life of Sir William Siemens is an inexhaustible mine of information on this point. Although scientific discoveries are often made simultaneously in widely different places, there seems good ground to credit the Brothers Siemens with a leading part in the following improvements and inventions—the galvanic process for silvering and gilding, anastatic printing, the insulation by means of gutta percha of telegraph wires, the construction of submarine mines for purposes of warfare, the laying of underground telegraph cables, the block system of railway signalling, the adoption of porcelain insulators for telegraph wires, the regenerative gas burner, the construction of the telegraph cable ship *Faraday*, and the erection of the first electric railway—surely a goodly list of contributions to scientific progress.

In Sir William Siemens' address, as President of the Iron and Steel Institute, in 1877, he spoke confidently of the near approach of the time when motor power would be transmitted by means of the electric current, and he added that he believed that a three inch copper rod might be made to carry the energy of one thousand horse power thirty miles from a large waterfall, or other natural source of moving impulse: I too believe the same, but there is much to do before even this is accomplished.

To utilise electricity on a vast scale to do the main part of the work of such a community as ours the amount of electro motive power needs to be enormous. A part of the current is lost in overcoming the resistance of the transmitting wire, and a part in doing the work for which the apparatus is designed: there is always also some absorption in waste, the friction of the machinery has to be overcome, while the electrical state or disturbance has to be got through the wire, hence the temperature of the transmitting wire is invariably raised during the passage of the current, this heat is generated out of the current, and is therefore waste or loss: it is a portion of the original force put into the primary machine by steam power or waterfall power reconverted into heat. Unfortunately this heating of the wire is a positive increase to the resistance in transmitting the current. To obviate this Sir William Thompson proposed to construct the conductor in the form of a hollow wire, or rather of a large tube containing cold water. This heating of the wire is one of the drawbacks to the economical transmission of the electrical current to which I have referred. And it seems to me that the direction in which advance will be made will be in so arranging matters, how I do not pretend to tell, that the wire shall not be heated, or possibly in the utilisation of the heat evolved

during the passage of the current. Another drawback is that the wire has to be greatly increased in sectional area when the current is transmitted a long way; in other words, if the distance is increased six times, the sectional area of the wire needs to be thirty-six times as large, that means a ruinous increase in the weight and cost of the material: here again advance is certain and we cannot doubt that the untiring energy of investigators and discoverers will some day solve the difficulty, so that electro motive power will be transmitted vast distances with little rise of temperature, and with no formidable addition to the sectional area of the conducting wires. The steam engine faced difficulties apparently more formidable, and overcame them, and electricity, the future ruling motive power of the world, the most powerful and convenient servant man has at his command, will overcome all obstacles, and be available for everything to which its wonderful powers can be applied.

The advantages of the electric current are obvious: the electric conductor can be brought round the sharpest corners, and carried through the most private rooms, without inconvenience: there is nothing to give way or burst *en route*. The same circuit, which can be tapped to work heavy machinery, may also move a sewing machine or a knife cleaner. In many manufacturing operations electricity will undoubtedly before many years play a marvellous part: in Scotland electrical power from a waterfall has been transmitted a mile and a half: it will be applicable to dredgers, which could be reduced in size, and so made lighter, and which could be worked from a central motor, so as to be applicable to smaller channels than at present. The success at Craigside, the seat of Lord Armstrong, where a waterfall, as I have said above, provides electro-motor power to light the house and to drive the saw-mill three-quarters of a mile away, is an earnest of the time when the machinery of Birmingham and Wolverhampton will be driven, and the streets and houses of those grimy towns will be lighted by electricity, and they will depend upon the tides of the Severn for their motive power, and when London itself may look to the same vast estuary for its supply of light and mechanical power.

Another question must detain us a minute, as it is of more than passing interest: a current may have high tension and small amount, or low intensity and large amount: to compare small things with great, we have a parallel in running water: we may have a large amount of water flowing slowly with a small fall, or a small quantity descending from a vast height with immense rapidity—the sluggish current of a fen country river or the lightning like velocity of a lofty waterfall. Now the possible work or potential energy of 1000 pounds of water falling one inch is the same as that of one pound descending 1000 inches. The electrical current is constantly observed in both these forms —a small amount in a high state of tension, or a large quantity in low tension. The Voltaic current issuing from a Voltaic battery of a small number of cells may be compared to the sluggish river, while the electric spark corresponds to a waterfall.

The subdivision of electric currents for purposes of mechanical work has been accomplished, although at present, with our imperfect means, every step in their subdivision and distribution means increased resistance and economical loss. Alexander Siemens thinks that setting the primary generator to charge the secondary batteries of M. Faure will be the best course. Sir William Thompson recommends the utilization of windmills for the storing of Faure accumulators, and indeed until perfect methods of transmitting the current are devised I fancy that the use of accumulators will be found to meet the difficulty, but almost any day we may hear of improvements in insulation and transmission.

Professor Sylvanus Thompson stated at the Society of Arts, several years ago, that the lamented Clerk Maxwell having being asked just before his death which he considered to be the greatest discovery of late years, replied, "the discovery that the dynamo-electrical machine is reversible," and he continues that were Clerk Maxwell still living, and to be asked the same question to-day, he would answer, "that the Voltaic battery is reversible," "for adds Sylvanus Thompson," the reversibility of the Voltaic cell, instanced in the Faure store battery, is the counterpart and complement of the reversibility of the Gramme machine, for while the one has solved for us the problem of electric transmission of power, the other has solved for us the problem of the electric storage of energy. Accumulators are an almost necessary feature in any scheme to utilise the intermittent force of the tides. Probably the present accumulator bears as much resemblance to the accumulator of the future, as a glass bell jar used in chemical experiments does to the gasometer of a city gas works, or as James Watt's first model steam engine does to an Atlantic Steamer.

Mr. Siemens believes that at sea the electrical transmission of power has no useful application, the machine driven ship having to carry the whole of its origination of power within itself. I grant that colliery proprietors may still take heart as far as this goes, but surely the time will come when electricity will be applied to the propulsion of ships. I at least believe in its possibility. No doubt when the stationary steam engine was *un fait accomplit*, no one suspected that long strings of carriages would be driven, and ships propelled by modifications of it. Should I live forty years longer I shall hope to see greater marvels than ships driven by electro motive power.

Electricity has already done wonders and has been used in a thousand ways: it has ploughed land with a double furrow and thrashed wheat: no spectacle is more astonishing than to see sawmills, lathes, and sewing machines at work driven by a small bell wire running down from the ceiling of the workshop. The electrical agent has no inertia to overcome, no weight of its own to move: it is an imponderable sprite; going round corners without loss, pursuing the most tortuous and the most direct paths with equal indifference: it is free from danger and without smell, in short, it is the great motor power of the future, the greatest wonder, our own bodies excepted, within the cognisance of our senses.

Professor Sylvanus Thompson has pointed out that the construction of only a few yards of embankment, in the neighbourhood of Bristol (probably he means in the Avon), would provide a tidal basin with a rise and fall of twenty-three feet, which would amply suffice, turned to mechanical uses, to charge every year ten million Faure accumulators and to raise twenty billions of pounds one foot high. One-tenth part of this energy would be sufficient for the permanent lighting of Bristol. He further calculates that one-fifth part of the tidal energy, now running to waste in the estuary of the Severn, near Bristol, where the rise and fall exceed twenty-three feet, would be enough, transmuted into electricity, to light every city and to turn every loom, spindle, and axle in the United Kingdom. Professor Perry, in some brilliant comments on certain of Professor Joule's experiments, goes farther. He prophesies that

before long we shall have great central stations, perhaps at the bottom of coal mines, where enormous steam engines will drive immense electrical machines. Along every street he believes wires will be laid, tapped into every house, much as gas pipes are now, and the current will be passed through little electric machines to drive machinery, ventilate houses and rooms, replace stoves and fires, and to work everything required in the household economy from mangles, sewing machines, and barbers' brushes down to apple-parers; and he goes on to add that with properly constructed machines the energy of Niagara could be converted into electrical power, and be transmitted to New York, there to be used for everything to which human labour is now commonly applied, and to much for which human strength is inadequate. Sir Frederick Bramwell prophesies that in less than fifty years the steam engine will be obsolete, and will be replaced by more powerful and convenient machines driven by electro-motor power; and I, for my part, feel sure that this great engineer has not let his imagination run away with him. Nor is his the baseless vision of a heated imagination. Are not engines, tram-cars and railways successfully and economically worked by electricity, and, only the other week, Dr. Samuel Hyde, of Buxton House, Buxton, showed me a small engine at work, lighting the whole of the vast establishment, of which he is the resident physician, with a soft, soothing, but withal brilliant electric light, while Faure's accumulators were being charged in large numbers for Sunday use by the surplus energy of the machine, which also worked an elevator. It is a sad coming down to leave the wonders of electricity for discoveries that in comparison seem commonplace in the extreme.

Coal tar, which has given us saccharine and many dyes of surpassing brilliancy and permanence, has also given us vanillin, which is displacing the older and the more familiar, though not more useful vanilla. I am not sure that those remarkable colours and flavours exist in coal tar ready formed; possibly the processes to which the latter is subjected lead to the building up of valuable compounds—this is a matter that would be hard to explain to readers ignorant of chemistry, though intelligible to the better informed. If, as I suspect may be the case, the manipulation of the chemist leads to the formation of many fresh compounds, there seems to be a good chance of increased economy in their preparation, and further advances in chemistry will probably facilitate and cheapen their preparation. Will my readers wonder if I repeat at somewhat more length that a young man, wishing for a scientific career affording greater promise and scope than any other, must choose the field of chemical research? Labour can hardly be misapplied there, and vast fortunes may be built up such as the man of letters, the physician and the minister of religion can only see in visions of the night. I am informed, apparently on good authority, that in some of our great northern towns scientific chemists are reaping a golden harvest from labours, which in addition to their scientific interest are eminently practical and remunerative. I am not a chemist, and my attainments in that line would be laughed at in chemical circles, but I know enough to be sure that the world will, in the long run, owe far more to chemistry than to medicine and surgery, indeed it might possibly dispense with doctors, but as for chemistry, born only a century ago, the feeble infant of our childhood, it is growing by leaps and bounds, and making its influence felt in all occupations, and to the remotest ends of the world.

In conclusion, let me say something about the natural history of cocaine, that invaluable drug which, with meteor-like rapidity, has come into common use. It has the singular property of deadening mucous membranes, so that operations on the eye can be carried out without the necessity of bringing the whole system under the influence of an anæsthetic, as was till recently necessary when chloroform and other members of that class were alone available. A strong solution of cocaine is applied to the mucous surface, and in a few minutes sensibility is temporally gone, and the most serious operations are practicable. I have been repeatedly assured by patients that they have felt nothing, and that they did not experience any discomfort even in long and tedious operations. Cocaine is a valuable drug for internal administration, and apart from operations, is most soothing to the surface of an inflamed eye; indeed it saves many an eye that would otherwise be doomed. My old school-fellow and fellow-student, Professor Priestley Smith, of Birmingham, considers that the most striking advance in ophthalmic surgery in modern times has been the introduction into common use, by Kohller, of Vienna, of this elegant preparation. But I must not forget that this drug, though it has only just come into use, and though three years ago it was totally unknown to the general public by name, and to the medical profession as a therapeutic agent, is one of great antiquity, and to the student of foreign lands and peoples was familiar enough by repute. When the Spaniards landed in South America they found the natives of the tropical valleys of the Eastern Andes, or rather of Bolivia, Peru, and Brazil, in the habit of chewing the leaves of a plant, now scientifically called Erythroxylon coca, the latter being a corruption of "khoka," which, in the Aymara language, means *the plant*. Not only did the Indians chew it, rolled into a ball and called "acullico," but with every fresh supply they put into their mouths a little unslaked lime on the end of a bit of wood, which, having been moistened, they had dipped into a lime flask. The Indian of America is a strange compound of melancholy and fortitude. He vanishes before the white man, though generally displaying conspicuous courage and determination in the conflict. He delights in dreamy contemplation, and to this may be ascribed his passion for tobacco and coca, to both of which he is peculiarly addicted. It is the custom to give the people of the districts where coca is indigenous or cultivated a few moments' rest, while they chew their favourite narcotic, to the enjoyment of which absolute repose and absence of pre-occupation are essential. In this way the Indian gets through an ounce or an ounce and a half of coca leaves in twenty-four hours. The time given to the consumption of coca is called "chaccar," and employers of labour find it an advantage to allow their workpeople to have this enjoyment at stated periods. Von Tschudi, speaking of the Indians of the Peruvian Andes, and his description applies fairly accurately to all members of the Red Skin Race, remarks that in their domestic relations they are unsocial and gloomy. Husband, wife, and children live together with little appearance of warm affection. Children approach their seniors with curious timidity, and whole days sometimes pass without the interchange of a word of kindness between them. When not engaged in out-door work the Indian sits gloomily and contemplatively in his hut, chewing coca, and brooding in silence over reflections that seem to offer little that is cheering. It has been asserted that coca diminishes the need for food, and increases the power of surmounting

great heights, and I remember reading, several years ago, some excellent papers by the late Sir Robert Christison of Edinburgh, on this subject, in which he very powerfully described the marvellous improvement in his power of breathing easily, in ascending lofty hills, whilst he chewed coca leaves. Coca, therefore, is not a new thing, except as regards its introduction, or rather, that of its active principle—the hydrochlorate of cocaine—into the armoury of the modern scientific surgeon. But its properties were such that when once recognised, it could not be long before it came into common use for medical purposes. At first the exorbitant price of the alkaloid repelled medical practitioners, as much as four shillings a grain being asked and paid—in other words, nearly £100 per ounce. That soon fell to half the price, then to threepence the grain, and now I believe it can be got at less than £2 per ounce, and no doubt it will fall still lower when more freely cultivated for the European market. The history of coca is that of many other drugs—known at first to a few people, and confined to limited areas, then described more or less intelligently by some learned visitor, and after a time introduced into all parts of the world, and, finally, applied to legitimate uses, adding to the conveniences and pleasures of life, and from a curiosity becoming the prized possession of millions.

LA TREPANACIÓN EN LA EPILEPSIA.

By Dr. Enrique de Areilza,

hospital de trianon, viscaza.

An abstract of a remarkable paper on "Trephining in Cases of Injury to the Skull" was given in The Provincial Medical Journal of May, 1887, *et seq.*; and amongst the twenty-five illustrative cases two were of epileptics, in which the disease was caused by depressed fracture, and a cure effected by the operation. In the last current number of the *Revista de Ciencias Médicas* two more recent cases are narrated, and, although in one only was the operation successful, both are of much interest for diagnostic and surgical reasons.

Dr. de Areilza tells us that there has been no cessation in the appearance of splintered skulls (*cascos hecho pedazos*) in the wards of the hospital under his care, furnished by the workers in the neighbouring iron mines; but, he modestly adds, after reading the brilliant results obtained by Championnière, Victor Horsley, and Macewen, in the same field of surgery, he cannot again refer to them. And the more so, as it is now clearly demonstrated that of all operations, that of removing a disc of healthy bone, or elevating depressed fragments from the skull, is the simplest and safest, and that the *dura mater* has shown itself to be the most tolerant and long-suffering of serous membranes if only reasonable precautions be taken when cutting into or otherwise interfering with it. Championnière lately gave an account of twenty consecutive cases of trephining, and amongst them of six in which the operation was performed, and with complete success, solely for the relief of severe headache.

In cases of idiopathic epilepsy the value of the procedure is still *sub judice*, and every case which can throw light upon its usefulness therein is of interest to the profession. The first in the present paper is an example of the dilemma referred to by Macewen at the recent Glasgow meeting of the British Medical Association: Given an inter-cranial growth which causes severe tetanic convulsions by its presence, but the removal of which would lead to incurable hemiplegia, should one operate? Which is to be most deprecated, convulsions or paralysis? But, are we quite sure that the second premiss is unassailable? may not some reparative or substitutional action in the brain restore the lost function? The answer in the affirmative is given by the results of the operation itself in the first of the following cases, and justifies to a great extent the daring, although in the main unsuccessful, operator.

Case 1. *True epilepsy commencing in convulsive movements of the left arm. Treated by extirpation of the motor area on the right side.*—Pedro Lara Pino, a labourer, æt. twenty-nine, in consequence of a severe fright (*una impresión moral terrorífica*) in 1881 had an attack of acute mania, with tetanic convulsions, lasting two days. A month afterwards the first epileptic attack was noticed, and from that day forwards the fits have constantly recurred, gradually increasing in frequency and force until they reached from twenty to thirty in the twenty-four hours, and the unfortunate man was reduced to utter helplessness. He had been under treatment of the most varied character without any relief whatever. The attacks commenced by a feeling of formication in the left arm, followed by convulsive movements; then the left leg was affected, with the muscles of the face, and the convulsions became general. Their duration was short—from one to two minutes. There was complete insensibility for the time, and no recollection of their occurrence afterwards. In the intervals there was constant pain in the right parietal region, most intense at the level of the centre of the fissure of Rolando.

It was decided to expose and excise the whole of the motor area at this spot on the 23rd of November, 1887. There was, as had been observed in the previous cases, great difficulty in the administration of chloroform. As soon as insensibility had been reached convulsions set in, with so much interference with respiration that death from asphyxia seemed imminent. The inhalation was stopped, and resumed several times with the same result; then a third of a grain of morphia was injected, with some effect, and amid alternate choking and convulsions the operation was proceeded with. It occupied one hour, and during that time nearly eight ounces (120 grammes) of chloroform were expended with very imperfect results.

The motor area was carefully marked out on the shaven scalp, and an incision made through it to the bone in the direction and length of the *linea Rolandica*; this line was crossed at each extremity by two shorter at right angles and the flaps reflected. The trephine was applied on each side of the centre line, commencing at its second fourth, and then upwards until—the intermediate horns being cut away with bone forceps—a space five centimètres by four and a half was obtained. The opening followed the oblique direction of the line, and in order to expose the whole of the implicated area, the trephine was again applied higher up; but on lifting the disc of bone, a torrent of blood showed that the superior longitudinal sinus had unfortunately been sawn into. The pulse fell instantly, and so low that the patient was nearly dead before the hæmorrhage could be stopped by re-inserting the plaque of bone, and retaining it by a bandage. However, he still lived, and the operation was proceeded with. The *dura mater* was incised and turned back as far as the edge of the opening, which laid bare the ascending circumvolution, which appeared to be perfectly normal and healthy, nor did free exploration of the area beneath with a long, fine trocar yield any evidence of

disease. With a sharp spoon the grey matter was then sliced off to nearly the depth of half a centimetre from the surface of three-fourths of the frontal ascending and half of the parietal ascending lobes; it weighed scarcely four grammes. The cut surface became of a blueish tint, and bled very freely; this loss was checked by irrigation with a cold 4 per cent. phenol lotion. Then a stout drainage tube was inserted, the scalp flaps re-united by metallic sutures, and the wound covered by carbolic gauze and a pillow of tarred sawdust. After the operation the exhaustion of the patient was extreme. Several subcutaneous injections of ether were needed before he recovered consciousness, and a long stay in a hot-air bath to keep him alive.

Immediately the decortication of the motor area was affected complete hemiplegia of the left side was evident, with slight ptosis; the latter was, however, only transitory. On the second day the wound was perfectly healthy; there was still complete paralysis, *but there had been no convulsion whatever*, and the patient was quite comfortable. The next day the drainage tube was removed, and the wound was rapidly healing; but it was noticed at the same time that there was some tonic contraction of the left arm and leg. There were also some automatic movements of the same limbs which, to some imperfect extent, imitated those voluntarily made on the opposite side, but the patient clearly had no control whatever over them, or, as he himself said, the more he tried to make them move or be still, the less they obeyed him. By the seventh day the wound had all but entirely healed, and there had been no more marked convulsive movements. The next morning, on awakening, the man found to his great satisfaction that he could slightly move the fingers of the left hand, and then the arm itself; there was also much more voluntary power in the foot and thigh. But there was a singular psychic tension in these restricted movements: the man had to *will* them for some moments before the limbs slowly obeyed the mandate.

He was then put under electrical treatment, and by the end of December could walk fairly well with the aid of a stick, but he had little use in his fingers. But, unhappily, on the eleventh day after the operation there was a well-marked epileptic attack, and in a short time the fits had resumed their old frequency and severity—it had failed utterly.

Case 2. *Fracture and depression of the frontal bone—Hemiplegia—Consecutive epilepsy.*—Manuel Larena, a sailor, æt. thirty-eight years, a hard drinker, but tolerably healthy, was struck on the right side of the head by the boom of his vessel whilst at sea, on the 19th of May, 1885. He was not stunned, and felt but little pain; the wound was plastered over and ice applied, but the injury to the bone was unnoticed. However, twenty-four hours afterwards, hemiplegia set in, with complete paralysis of the left side, the face alone escaping. The man took to his bed, and obstinately remained there for thirteen months. About four or five months after the accident there was a slight epileptic attack, followed by many others. In each the aura was felt as an itching in the left nostril, sometimes followed by bleeding, then contractions of the facial muscles followed, and finally general convulsions, both the paralysed and the sound side being equally affected. The fits happened three or four times a month, but oftener when the man had been drinking.

He came to the Trianon Hospital in August, 1888, and, on examining him, Dr. de Areilza found the scar of the old wound with a slightly marked depression of the bone, it was about five centimetres in length, three from the bi-auricular line, and two from the median. It was approximately over the middle of the first and part of the second frontal lobes; quite firm and insensitive. The paralysis of the lower limb was not complete, some feeble locomotion being possible, but the arm and hand were quite useless. The muscles reacted well to electrical stimulation, but were much wasted. The most careful examination of the skull, however, revealed no sign of injury over the motor zone. It seemed to de Areilza, nevertheless, better to operate at this spot, so the bone was exposed by a semi-circular flap over the region of Rolando and four discs removed, producing an ample rectangular space. The *dura mater* was reflected to the same extent and the brain examined. It seemed to be perfectly healthy; there was no adhesion between it and the meninges, and the bone was of normal thickness. This being the case, the pieces of the skull were replaced and the scalp incised downwards and forwards so as to expose the old depressed fracture. The trephine was applied here three times; the middle disc was found to be greatly altered, much thickened and perforated with holes and channels as if it had been affected with destructive osteitis; it had also a smooth depression in its centre in which lay a small fungoid growth, springing from the *dura mater*. The two other discs were solid and greatly thickened, so much so, that those from over the motor area being but four centimetres thick, these were more than seven, and extremely hard. The little growth was cut away with the portion of the membrane at its base; the *dura mater* was somewhat thickened and adhered to the brain, but beyond this there was nothing abnormal to be seen in either. This terminated the operation; the flaps were replaced, but no drainage tube was used. There had been exactly the same difficulty in the chloroforming as in the former and previous cases.

By the sixth day the wound had firmly healed without any complication. As for the results of the operation it would be premature to express any opinion at present; cases of paralysis and epilepsy of so long standing require extended subsequent observation to enable one to report the results faithfully. Up to the present time all has gone well; in two months there was but one slight fit, which lasted only a few seconds, and was confined to the paralysed side. The hemiplegia is also lessening; the leg is especially better, and there is great improvement in the movements of the hand. But the patient himself is the greatest difficulty, he will not submit to the electrical treatment, and his habits are as disreputable as ever.

The two cases differ fundamently, the one was an ordinary example of epilepsy, the other the same disease of traumatic origin. In the first, the severe procedure was adopted of cutting away (but scarcely to its full depth) the grey matter of the motor area, and that it was correctly localised was proved by the induced paralysis of the limbs in which the convulsions commenced, but the results were disappointing and disastrous, the man's condition being distinctly worse than before. In the seconed case no more was done than extirpating a little growth no larger than a barley grain, and removing some bone which pressed but slightly upon the brain, but the effects seem to promise all we could desire. In this case, any severe operation would have been unjustifiable. But in the first example there was a poor labourer, reduced to utter helplessness and misery by thirty fits a day, and no remedy which offered any chance of relief seemed too desperate for trial. Now the results

which Horsley has obtained justify us in opening the skull and examining the brain in this disease; but, on doing so, nothing abnormal was to be seen, and even puncturing the motor area gave no more indicative results. Under these circumstances it seemed unreasonable to the author to simply reclose the wound; it is true that he had no authority for proceeding farther; up to that time surgeons had only removed portions of the brain which were manifestly diseased, and none had ventured to cut away aught from its substance which seemed microscopically intact, but it appeared to him that the disease might be due to molecular changes within the cells so intimate that the only remedy was their ablation, even although to the eye they had the appearance of being sound and healthy.

Impressed, also, by the teaching of Unverricht that the cause of epilepsy invariably resides in the grey matter of the hemispheres, he removed it from the indicated area with the full knowledge that hemiplegia—probably incurable—would follow, with the conviction that the induced disease would be more tolerable than that he hoped to cure. But the result was a complete disillusion, the pariesis passed away, the epilepsy returned; and it is clear that cerebral topography has not yet reached that perfection which could enable it to guide the hand of the surgeon unerringly to the site of the lesion he is in search of. And this is most instructively shown in the second case: most surgeons would have been content to have removed the depressed bone and cut away the fungoid growth; but Dr. de Areilza had such perfect confidence in the mapping of the motor areas, that he only did so after he had convinced himself that the normal place was really not the site of the mischief.

The author does not refer to the question, if removing the grey matter to a mean depth of half a centimetre can be said to be effectual, its thickness is certainly much greater. Had he excised the whole of it down to the white fibres, the paralysis would have been more profound, most probably irreparable, but would there not have been a greater certainty of obtaining the end for which the operation had been undertaken? As it is, it seems that as soon as the surface wound had healed, the portion of grey matter left had been able, although imperfectly, to carry on the work of the whole; any replacement of the lost cells being out of the question.

The scarcely to be regretted death of the patient, Pablo Pino, four months after the operation, gave an opportunity for tracing the history of reinserted bone: one disc was replaced, we have seen, as the readiest means of checking the hæmorrhage from the disastrously invaded superior longitudinal sinus, it was left there, not without considerable misgivings as to its ultimate behaviour—the possibility of its death and consequent suppuration being one contingency—but all turned out well, the scalp healed over it, and to the touch it seemed as if firm bony union had taken place. But this was not the case: at the *post-mortem* it was found that the bone had been tolerated, not welcomed; it was firmly attached externally by a fibrous growth, but within it was quite free; it had the pinkish colour of living bone, but it had been riddled into trabeculæ; its life had been preserved by the pericranium, which had also formed its attachment to the skull, but its blood supply would seem to have been too restricted to permit ossious growth. However, it made a far better covering for the brain than the tough, but elastic growth usually left to be formed, with the frequent vertigo and hemicrania in its train, and the plan with aseptic precautions is one well worth following.

G. F. CADOGAN-MASTERMAN, M.D.

MONTHLY REPORT ON NEW PREPARATIONS, FOODS, DRUGS, INVENTIONS, ETC.

Bouillon Fleet.—Messrs. Fleet and Co., Fenchurch-avenue, London, have after considerable pains succeeded in producing an excellent preparation suitable for ordinary household consumption, for invalids and sick persons. It is a highly concentrated food, with pleasant flavour and taste, and readily miscible with water in varying proportions, according to the strength desired. Too many of our beef extracts advertised are simply condiments, giving a relish, but not possessed of much food value, and we are pleased to have an addition in the shape of a bouillon, which fulfils all the conditions desirable. The samples we have tried have given perfect satisfaction. It is a nutritious and concentrated food.

Rowntrees Elect Extract of Cocoa.—Cocoa, well prepared, and with a proper flavour and aroma, is one of the most nourishing and economical of diets. Unfortunately, cocoa is very much adulterated, and when not adulterated is mixed with sugar, potatoes, starch, etc., which make a cup nauseous and thick. Rowntrees cocoa is a pure unadulterated extract; has a fine delicate flavour, and possessing all the nutritious ingredients for which cocoa is noted.

The Carbon Chemical Cone Company.—We have already alluded to the original preparations issued by the above-named company, and we may briefly recapitulate what we established in reference to their cones. 1. The cones, which are filled with scent, as white rose, heliotrope, sweet briar, etc., etc., are most elegant accessories, not only for the sick room, but for ordinary use for the perfuming of rooms; the aroma of the individual scent may be distinguished. 2. We established that the disinfecting cones charged with capsules of carbolic acid, carbolic and iodine, etc., possessed powerful deodorising properties, under conditions, as where a close stool has been used, the smell of which is completely neutralised by the burning of a cone. This class of cone we have also used for the disinfection of rooms which have been occupied by scarlatina patients, using for this purpose for a room of medium size one or two cones. The sulphurous acid cones we have tried for the disinfection of some rooms which had been used by children suffering from whooping-cough. We do not remember the name of the writer who highly recommends sulphurous acid and sulphur fumigation for whooping-cough. That this system is one to be recommended, we have the strongest evidence, and by means of the cones we have a ready method of charging a room with varying degrees of sulphurous acid vapour, or if necessary, with carbolic vapour, depending on the number of cones used. For the disinfection of a room with carbolic or sulphurous acid, the windows should be closed, and one or two cones lighted, the children being moved during the process into another room. There is a great choice in the list of disinfectants, and those who do not like the smell of carbolic can use a cone in which the carbolic is combined with lavender or thymol. A caution we must give, when the cone is lighted and placed in position, it should not be meddled with or

taken up, and this caution is especially necessary with the cones made with chlorine, as the chloride of ammonium cones. If stirred a cone may explode, and cause a little temporary alarm. One of the strongest and also one of the most agreeable of the disinfecting cones is the camphor carbon, which will be found highly useful by nurses in purifying the room of a fever patient. 3. The medicinal cones are intended to saturate the atmosphere of a room, so that the patient may breathe an air charged with medicine, and these cones are especially indicated in the treatment of asthma, bronchitis, pertussis—the only diseases which and we have been at present able to employ them. The treatment of pertussis is unfortunately largely empirical, we have to fall back upon experience for guidance. It appears to be established that pertussis may be palliated by the use of disinfectants, as chlorine, carbolic, eucalyptyne, and bromine. An old plan of burning carbolic acid on a heated shovel has long been in vogue, and excellent results are reported by this method. The cone gives us a more elegant and easy method of applying medicated vapours, which can be breathed by children suffering from pertussis. We have tried for this purpose the bromo-eucalyptol cone, which is one of the most agreeable and efficient of the series, and which does not irritate the sensitive mucous membrane as sulphurous acid and carbolic acid do. In bronchial asthma we have used the vapour of the pinus sylvestris and chloride of ammonium, and are able to speak favourably of their action. The chloride of ammonium cone gives off very dense fumes, and one cone is sufficient to fill an ordinary sized bedroom. We shall publish another report from our chemist, which will enter more particularly into the volume of gas or vapour given off, so that we may know the exact air space one cone will fill. We are convinced that in these cones we have a ready and reliable method of applying attenuated medicinal vapours, and that their future development and adoption by practitioners will follow upon the more exact knowledge of their dynamics.

The Swiss Milk Company's Flora Alpina.—This is a sweetened and pure compressed milk extract, which is guaranteed to be prepared in Switzerland; it is an agreeable preparation, possessing all the properties claimed for it by the makers.

Pearl-Coated Pills, etc.—Coated pills which will readily dissolve when swallowed, *and not pass out unchanged*, are now in reach of the profession in London and the provinces. Messrs. John Richardson & Co. have made a speciality in their manufacture of pearl-coated pills, and testimonials as to their value have been received from all parts of the world. A town depôt for these pills and other specialities has been opened at 6, Great Russell-street, Bloomsbury, a few doors from the Oxford-street end of Tottenham Court-road, where the specialities of the firm can be seen and purchased.

Reviews.

Ophthalmic Practice. By CHARLES HIGGENS, F.R.C.S. Lewis's Practical Series.

THE wants of students and general practitioners are now-a-days—thanks to the watchful care of enterprising publishers—amply provided for. Each month furnishes its quota of hand-books, in whose prefaces the words—practical, brief, concise, frequently occur, expressive, as we take it, usually of the author's aims, occasionally of his apologies. The book before us is an example. We think the publishers have been singularly fortunate in their selection of Mr. Higgens for the task they have assigned to him. It is now more than ten years since his little work, entitled "Hints on Ophthalmic Out-patient Practice," appeared, and its value has been sufficiently attested. In the present comparatively large work similar excellencies are manifest. Its style is markedly didactic. The reader is not asked to weigh the comparative merits of various operations, nor is his mind confused by conflicting theories; but the author states his own views—which are always definite, and what is more important, usually correct—in such a manner that they are evidently not the outcome of a rash resolve, but rather the fruit of a large and matured experience. This we conceive to be of the greatest moment, and best fulfils the purposes for which the book was published, *i.e.*, to be of service to those practitioners who in the chances and changes of their daily work most of all require a safe and sure direction to guide them in emergency. It must, however, be admitted that should the critical specialist approach the work from his particular standpoint, he may be pained to find the omission of some cherished theory, or recommendations to some line of practice contrary to his own views. A brief example or two will suffice:—In speaking of optic neuritis, Mr. Higgens uses the old, almost obsolete, designation of "choked disc." This might be considered an error of some gravity, as the name implies a pathological process which has now but few supporters. Considering the connection between the eyes and certain cerebral conditions, we should have expected a more lengthy description of hemiopia, the one furnished being scarcely more full than would be found in an ordinary dictionary. The directions for the after-treatment of cataract extractions we think require emendation, there being no benefit derivable from constantly wetting the lint. Nor is it to our minds the best policy to postpone examining the eye operated on for a week. In conclusion, we believe that anyone who requires a book on ophthalmology, wherein he will find plain direction, good counsel, lucid definition—the whole free from ambiguity, either of terminology or expression—cannot do better than select the work we have thus briefly noticed. CHARLES G. LEE.

Clinical Lectures on Diseases of the Urinary Organs. By SIR HENRY THOMPSON. Eighth edition. London: J. and A. Churchill.

"THE whole of these lectures have been thoroughly revised. Much of the text has been re-written, and considerable additions have been made, with the object of conveying, in clear and simple language, those views, which, after long enjoying an unusually wide field for practice and observation, appear to me to be the truest and the soundest respecting each topic he had considered." This quotation is taken from the preface to the eighth edition, and we can verify its accuracy. The lectures, preserving the colloquial style in which they were originally presented, are enriched by the latest experience of the writer and the latest advances in operative measures for the relief of stone or tumour, and for all the emergencies which may occur in connection with urinary diseases

The new edition is profusely illustrated, whereby its value to the student is very much increased, making it the most complete as well as the most concise text-book in any language. Sir Henry Thompson possesses the art of condensation and of putting things clearly, and hence his great success as a teacher and lecturer. He has another gift of a charm of style, which owes its chief attraction, perhaps, to its very simplicity. It is to the credit of English medicine that this work has been translated into French, German, Spanish, Italian, and Russian, and is employed as a text-book in most of the medical schools of Europe. It needs no better endorsement.

Intestinal Diseases of Infancy and Childhood. By A. JACOBI, M.D. Detroit, Mich.: George S. Davis. 1887.

THIS book is quite an exception to the usual unprofitable results of writing on the special diseases of children. The author shews that in the first year of life the stomach and the intestines are the sources of a high death-rate amounting to forty per cent., whereas in the second year only nine per cent. are due to digestive troubles. It is clear that hygienic rules for infants concern the digestive organs mainly, and hence an account of the physiology, hygiene, pathology, and therapeutics of the infant's alimentary canal forms an unusually interesting and instructive volume. An experience of more than a third of a century justifies the author in attempting to diminish infant mortality by insisting on normal alimentation during the first few months of life; he points out that almost one-half of the infants who die before the end of the first year do so before they are one month old, and that the mortality diminishes with every day of advancing life. The following quotation will serve to give an illustration of the style and practical value of the book.

"How should children be fed, from a spoon, from a cup, or from a nursing bottle? Most certainly from the latter. It alone gives the certainty that the food has a suitable consistency and contains no lumpy ingredients. The accurate removal of lumps and a uniform consistency of the food is analogous, in the child, to mastication in the adult; at least, this is approximately true. The prejudice which is prevalent with mothers and many nurses, that thick nourishment is necessarily nutritious, must be met and opposed energetically. Proper digestion demands, above all, a gradual introduction of the food into the stomach. The use of the bottle is so much the more indicated, as well as desirable, in that when a slight degree of weariness comes on after its use, the infant is naturally obliged to cease nursing."

We refrain from further quotation. The book is one to read; abstracts from it are inadequate. It contains the ripe experience of a good observer, and is likely to be of great value to those who consult it.

R. SHINGLETON SMITH, M.D.

Nerve Prostration, and other Functional Disorders of Daily Life. By ROBSON ROOSE, Esq., M.D., etc. London: H. K. Lewis.

WE believe we are indebted to America for the term, "neurasthenia," or nerve prostration, which is really not a disease, but a condition due to many causes. Oliver Wendell Holmes says that when the nerves are tapped, as by a shock, we cannot measure the loss, as we do with blood loss, though we can see the results in the blanching and weakening which follows from shock. We must recognise that there is in modern life a state in which we have definite symptoms of prostration, brought about by over-work, over-anxiety, and the pressure of competition. Dr. Robson Roose has caught up the popular wave, and rather alarms us by the prolific nature of his pen in producing a work extending over 600 pages.

When we examine the work in detail we can at once account for the size it has assumed, and we find included in his text a number of diseases which have no connection, as far as we can see, with functional nervous disorder. It would be possible by the process of reasoning he adopts to include all the diseases in our text-books under the heading Neurasthenia, because they sometimes occur in persons who are the victims of nerve prostration. However this may be, or however we differ as to the author on the question of the wide spread ramifications of neurasthenia, we are able to thoroughly agree with his therapeutics, and this we consider the strongest point in the book, and sufficient justification for its production. Dr. Roose writes from a considerable experience of this class of disease, so that we can receive his advice with confidence. The work is beautifully printed in large type, so that it is a pleasure to turn over the pages.

A System of Midwifery, including the Diseases of Pregnancy and the Puerperal State. By WILLIAM LEISHMAN, M.D. Fourth edition, vols. i, ii. Glasgow: James Maclehose and Sons.

THIS work has reached a fourth edition, a sufficiently gratifying recognition of its appreciation by students and practitioners, especially when we remember the number of works we have on obstetrics. We approve of the division into two volumes, as a large book is a great evil for the reader, as we found out with the second edition, which was in one volume. On comparing the two we find that considerable additions have been made, especially in the physiological portion, so as to bring it down to the latest views. There are admirable sections on the diseases of pregnancy, whilst the mechanism of labour is admirably explained and illustrated. The author takes us through the various presentations, giving very full and detailed descriptions and excellent drawings of each, and then deals with operative measures. Management of mother and infant receive a due share of attention, and the complications which may occur after delivery receive exhaustive treatment. The work is admirably adapted for the use of the student and practitioner who really desire to equip themselves thoroughly in what forms such an important part of general practice.

A. B.

Hydrophobia: a Review of Pasteur's Treatment. By W. COLLIER, M.A., M.D. Cantab., M.R.C.P.

DR. COLLIER tells us that: "The following short sketch has been written with the hope of making Pasteur's many valuable discoveries, and the experimental evidence and other facts on which his treatment of hydrophobia is based, more widely known to the general public." The reader will find

herein a short but clear statement of Pasteur's investigations and curative measures taken against the silkworm disease, which proved so extensively fatal in the south of France, in 1849. Following upon this we have an account of inoculations which are said to have arrested the splenic fever. The principal point, however, of Dr. Collier's pamphlet is a favourable presentation of Pasteur's treatment of hydrophobia. In a tone of full confidence, the author states that inoculations are now performed upon dogs and rabbits with impunity, which, with absolute certainty, would kill in a few days had not the system been prepared to resist the poison by previous inoculation of weaker and less potent virus. It is nevertheless respectfully submitted that, for the treatment in man, *sub judice lis est;* and that it will be found to have been treated of more strictly in conformity with the laws of scientific enquiry, on previous occasions, in the pages of this journal. W. B. Kesteven, M.D.

Short Notices.

De L'Ozène Trachéal. By Dr. Luc.

Tracheal ozena is a variety of inflammation of the trachea which is usually found to be connected with nasal ozena, although sometimes it is developed independently. The secretion is marked by a peculiarly fetid smell, and a microscopic examination reveals micro-organisms identical with those observed in the crusts formed in nasal ozena. The crusts of tracheal ozena are formed within the trachea. The clinical manifestations are expectoration, especially in the morning, of a thick, viscid, and greenish phlegm, having the peculiarly fetid odour of ozena. This fetid smell persists after the most careful cleansing of the nostrils, and is as marked in the breath expired by the mouth as by the nose. To place the diagnosis beyond doubt the laryngoscope should be employed. Tracheal ozena renders the prognosis of nasal ozena much more unfavourable, as the cleansing of the naso-pharynx fails to remove the fetid character of the breath. The crusts adhering to the tracheal walls may be softened and detached by the inhalation of medicated vapour or spray, but they return at once if the treatment is discontinued. Dr. Luc, in his monograph on tracheal ozena, proves himself to be a careful and painstaking clinical observer. H. R. Hatherly.

On the Vomiting of Pregnancy and Menorrhagia. By John Meredith, M.D. Edin., Medical Officer of Health, Wellington, Somerset.

Dr. Meredith does not, upon the whole, appear to concur in the opinion expressed by Dr. Graily Hewitt, that "the almost universal cause of the vomiting of pregnancy is displacement of the uterus;" he shows, from cases under his own observation, "that inhalation of sewer air, or exposure to noxious unhealthy environment, might be a potent factor in bringing about the ill complained of." Dilatation of the cervix in the case he has put on record, effected the cessation of the symptoms. "Taking all points into consideration, it seems true," Dr. Meredith observes, "that the flexion, in the marked form in which I discovered it, was more probably the consequence of the vomiting than its cause;" an opinion, it may be observed, the contrary to that expressed by Dr. Hewitt, on this point, as quoted by Dr. Meredith. The cases of menorrhagia related by Dr. Meredith are also referred to the unhealthy hygienic surroundings of the patients.
W. B. Kesteven, M.D.

L'Alcohol, Physiologie, Pathologie, Medicine Legale. By Dr. T. A. Peeters.

This work forms a very complete summary of the numerous treatises on alcoholism which have appeared during the last few years. The first part deals with the physiological action of alcohol on the digestion, respiration, circulation, etc. The second part treats of its pathological effects, and, as might be expected, the action of the poison on the nervous system is very minutely described. The third part is devoted entirely to the jurisprudence of alcohol, and the relations between crime and drunkenness and the question of responsibility are fully discussed. Since Dr. Lancereaux published his work, it is the first systematic treatise on alcoholism. H. R. H.

Leçons Cliniques sur les Affections Chirurgicales de la Vessie et de la Prostate. By J. E. Felix Guyon.

These lectures, which were delivered at the Necker Hospital by Professor Guyon, throw a great light on the pathology of the bladder and prostate gland. The author's first lecture is on hæmaturia in retention of urine, and after intra-vesical injections. He lays down certain rules in reference to injections, which are the outcome of a long and extensive practical experience. The lecture on the surgical treatment of tumours of the bladder is original and instructive. Few men have contributed so much to vesical surgery as Professor Guyon, and none are entitled to speak with greater authority. The lectures on diseases of the prostate gland, and on the numerous varieties of cystitis, give clear and concise information which will be of great value to those in actual practice. The work concludes with lectures on acute and chronic prostatitis, and on diffuse carcinoma of the prostatic pelvis. These lectures are intended to form the first of a series of three volumes on the pathology of the urinary organs. H. R. H.

Illustrated Lectures on Ambulance Work. By R. Lawton Roberts, M.D. Third edition, with illustrations. London: H. K. Lewis.

This is one of the most complete works on ambulance subjects we have yet seen, and one admirably suited for those who intend to engage in ambulance instruction. It is too full for ordinary ambulance classes, as it far exceeds the syllabus laid down by the St. John Ambulance Association. The lecturer should, of course, be far in advance of his class, and in Dr. Roberts' work he will find a mass of material to hand derived from different sources, and on perusing it will be able to select what may be suitable for his own class. Dr. Roberts does not confine himself to the St. John Ambulance syllabus, but gives a sketch of ambulance work as carried out in our own army. The illustrations will be found particularly serviceable.

The Provincial Medical Journal,

JANUARY, 1889.

THE support we have received from the profession during the past few years has been most gratifying, and we have to express our indebtedness not only to the members of our staff who have helped to make the paper what it is, but to those members of the profession who have so liberally contributed. We should like to refer individually to some of the articles which have appeared, but this might seem invidious. In order to keep pace with the demand upon our space, the journal has been enlarged to sixty-four pages of reading matter, and in addition we have arranged for the full illustration of any papers requiring it, so that every inducement is offered to subscribers. We have not confined our space for the special use of members of the profession who have an established reputation; we have aimed at inviting contributions from all classes of the profession, so as fairly to represent what is cotemporary medical practice, not in one rank, but in all the grades. We have mingled scientific with practical articles, so as to suit the different classes of readers; whilst in our summaries we have presented a fair *resumé* of cotemporary medical practice in many countries. For some years articles on new remedies have been a conspicuous feature of the journal, and as these have been written by a distinguished member of the pharmaceutical society, our readers can rely upon the accuracy of the descriptions given; while the notes by the same author have given the latest information on all the newest pharmaceutical preparations. In current notes and topics we have alluded to the chief incidents in the medico political life of the profession; while in the leading articles we have dealt with graver subjects affecting our professional interests. We have steered clear of personal reflections in anything we have written, and to this rule we shall continue to adhere. We hope that the arrangements we have made for the year 1889, will meet with the approval of our readers, and we think we can promise them a series of papers from some of the best workers in the profession, so that the standard of the journal will be fully sustained, and it will continue to be worthy of the title which it has assumed.

IT is a curious fact, which is said to have excited the surprise of Dr. SAMUEL JOHNSON, that the inventor of spectacles has found no biographer. The truth is that considerable doubt exists as to the very name of the gentleman in question. Some hold that it was one SALVINO, who died in 1318, while others maintain that the discovery was announced by SPINA in 1285. An interesting article on this subject appeared in an early number of the *Quarterly Review*, from which we have taken some of the following notes. In the year 1826, a treatise on "The Economy of the Eyes" was published by a Dr. KITCHENER, who declared that the only individual incapable of acknowledging the value and usefulness of his book was an optician, who complained that it would have the effect of making the public as wise as the trade. In bringing out a second edition of his work, Dr. KITCHENER begged his readers—if they were capable of any such feeling as that of gratitude—not to lend his book to anybody, but to advise everyone to buy a copy for himself. In 1847 a work appeared "On Vision, in Health and Disease," by ALFRED SMEE, F.R.S. The only modest thing about this production was its price, and even that could not redeem it. The *Quarterly Review* summarily disposed of the publication in these words: "We would advise no one to buy it who has any love for a shilling"—advice not altogether inapplicable to the purchase of certain literary ventures of even a later date. "Those who cry themselves up," sententiously added the Reviewer, "provoke others to cry them down." A more deserving work was that published in 1847, "On Near and Aged Sight and Impaired Vision," by WILLIAM WHITE COOPER, whose wisdom on this subject, however, falls far short of that of the present day. The man who, with or without the aid of books, obtains at the right time the spectacles that he requires, is indeed a happy being. "The haze before him is dissipated, and he seems to gaze upon a renovated world." On the other hand, the misery of the mortal who continues to overtax his vision, has been humorously described as follows: PEPYS returned from the play, his eyes "mighty bad," and recorded that it taught him, "by a manifest experiment," that the candles of the theatre made him sore (what would he have said, poor man, to the glare of more modern inventions!) But his passion "to gaze on the fair, who caused him his care," still brought him back, to gaze on the light that hurt his sight, and there, with the prospect of total blindness before him, he sat a suffering spectator—

> "Unable to conceal his pain;
> And winked and looked, and winked and looked,
> Winked and looked, and winked again."

We read that the celebrated RAMSDEN used to present spectacles, fitted with common glass, to customers difficult to please, informing them, in the blandest terms, that these were exactly what was best suited to their peculiar vision. An exclamation of delight invariably followed: "Aye, *these* will do! *These* are capital!" A pair of empty rims were sometimes tried, by the same astute artist, with equal success, which "by the force of imagination added lustre to the scene." It is a fact, as true now as it was in Dr. KITCHENER'S day, that many persons seem to regard the determination of a particular curvature and power of lens (best suited to themselves) as a matter of unimportant detail. A pair of family spectacles, a century ago, whoever they may have suited originally, must, in the opinion of such persons have special virtues, for why should not family spectacles, like family Bibles, be equally useful at all times and unto all men? Not thus, however, can the mole-like individual be made to enjoy the visual range of the eagle. We read that the Earl of BATH assured Lord

Chesterfield, who suffered from deafness, that he would be happy to lend him an ear! "With truth more consoling than wit," wrote the *Quarterly Reviewer*, "may it be said to the thousands whose sight is defective, that the inventor of spectacles has lent them an eye. He has added to the pleasures and independence of age; he has lengthened life in protracting its usefulness; he has combined to wisdom the treasures of knowledge; he has preserved to the public the riches of wisdom; and for all degrees of men he has, times without number, kept the curtain from falling till the play has come to an end."

The above remarks have a close bearing on a tiny pamphlet, now lying before us, entitled—"Spectacle Missions: their Object, Advantages, Management, etc.," by Dr. Edward J. Waring, C.I.E., Fellow of the Royal College of Physicians, late H.M.'s Indian Medical Service. London: Kirby & Co., publishers, 440, Oxford-street, W. This little publication is one of a most pleasing character, affording, as it does, evidence of well-judged and sound philanthropy. The writer, a veteran in the ranks of science, and widely known by his valuable works on "Medical Botany" and "Materia Medica," here states, with touching simplicity, that when, owing to failure of his own health, and notably of failing eyesight, he was prevented from taking an active part in the work of life, he conceived the idea of organising a plan for the distribution of spectacles, and of extending its operations among the outside poor generally. The object of a "Spectacle Mission" is "the gratuitous supply of spectacles to those of the poor and hard-working classes who stand in need of them, and whose circumstances do not admit of their purchasing them." It has reference particularly to such persons as printers, seamstresses, tailors, shoemakers, and the like, who suffer from failing sight. It is meant to assist deserving persons whose livelihood depends upon unimpaired vision. Dr. Waring, after dwelling on the objects and advantages of the charity he is interested in, shows how such a mission is to be organised and conducted, and how with simple precautions it is not open to much abuse. It is in no way meant to encroach on the province of the ophthalmic surgeon; indeed, "it overlaps no other charity." The term *Spectacle Mission* is employed because an essential part of the charity consists in distributing, with each pair of spectacles, a copy of the Pocket Testament, or of the Psalms, published at the price of *one penny each*, by the British and Foreign Bible Society. All the details of the scheme are carefully laid down, and the important fact is made clear that, with a little trouble and care, a spectacle mission is really simple in its working, and not very expensive. £15 is estimated as covering the cost of 240 pairs of spectacles (each in a case), 240 New Testaments, and all probable contingent expenses. But a beginning can of course be made on a much smaller scale than this. No special scientific knowledge or qualifications are necessary to enable any kindly disposed person to work the scheme. The simple rules which are laid down in Dr. Waring's pamphlet, if carefully acted up to, are sufficient in themselves to ensure perfect success, and to teach any person of moderate means how, safely and efficiently, to accomplish a work of great utility. The poor and ignorant evidently stand in much need of a little sound advice on the subject of selecting or securing spectacles, as is proved by certain facts which Dr. Waring adduces; and which, sad from one point of view, are certainly somewhat quaint and humorous from another. Thus we are told that some persons have paid dearly, at second-hand shops, for glasses quite unsuited to their powers of vision, yet too valuable not to be worn. Others have been disappointed because "their missuses" do not suit them; while one poor man is known to have struggled to see clearly with "specs" inherited from his grandfather!

Dr. Waring has not only brought his scheme to bear on the relief of the inmates of different workhouses and asylums, but he has been able to establish and to keep going a spectacle mission at his own private residence, the influence of which now extends to four or five contiguous parishes, and the results of which have been highly satisfactory. His one thought, in publishing his present pamphlet, is to draw the attention of others to the nature of his useful mission, and to extend its scope in all directions, over the length and breadth of the land. No scheme more simple or more benevolent could well be conceived. We therefore heartily commend it to all persons, male or female, of charitable disposition, who are desirous of benefiting their fellow-creatures. We feel strongly that so excellent a charity ought to be made as widely known as possible. "All information," we are told, "as to its details will be gladly furnished in reply to an application to Miss C. Waring, Hon. Sec., Maida Vale Spectacle Mission, 49, Clifton Gardens, London, W." We have ourselves had an opportunity of carefully examining and testing the spectacles distributed by Dr. Waring, and, what is better still, we have the authority of a most distinguished expert for saying that, in spite of their wonderfully low cost (one shilling a pair, in a case), they are well made, and very efficient. Unlike Dr. Kitchener, sixty years ago, Dr. Waring will be delighted if all who read his little pamphlet will let their friends and acquaintances also read it. Fortunately, too, opticians of the present day do not object to the public being enlightened on such matters. Like William Cooper, in 1847, Dr. Waring has thought more of the public than himself, and he certainly has not devoted a syllable to the display of his learning at the expense of his judgment. With such glasses as Dr. Waring distributes gratuitously, Pepys might have gazed comfortably on "the light which hurt his sight;" and with them it is certain that Dr. Waring is daily making the poor happy, and, to the great joy of many, keeping the curtain from falling until the drama comes to its legitimate end. We have read of Heberden writing his wonderful "Commentaries," when he had reached fourscore years, and of his remaining cheerful till the age of ninety-one, although years before his death he met with

an accident which disabled him for ever afterwards. We also recall the case of the great MORGAGNI toiling at professional subjects till his eightieth year, and completing his greatest work ("De Sedibus et Causis Morborum") after blindness had seized him, being assisted in his labours by the then youthful and afterwards renowned SCARPA, who, when their daily task was completed, was wont to amuse old MORGAGNI by reading to him his favourite classics. Such are the men of whom it may truly be said that they were "great in goodness as in wisdom." Not less pleasing and touching, it appears to us, are Dr. WARING'S noble efforts, with his daughter's gentle, kind and intelligent assistance, to relieve affliction, such as he himself has had personal knowledge of. Thinking of such high-souled benevolence, and of the loving spirit in which it is carried out, we can only say, O! SANCTA SIMPLICITAS. May Spectacle Missions soon come to be much more numerous and widely known than they are at present.

THE late meeting of the Medical Council was in many respects a memorable one. For the first time it put in force the penal clauses which it has the power to enforce against conduct infamous in a professional respect. Two practitioners were accused of covering. The first charge was against Dr. ALEXANDER LINDSAY, that he, being a registered medical practitioner, had acted, and did still act, as cover to one EDWIN MIDDLEBROOKE, of Smallthorne, Stoke-on-Trent, in the county of Stafford, an unqualified person, thereby enabling the said EDWIN MIDDLEBROOKE to carry on a medical practice as though he were a legal medical practitioner. This charge was fully inquired into, and substantiated, and the Council moved "That the Registrar be directed to remove the name of Dr. LINDSAY from the 'Medical Register.'" A second charge was formulated in somewhat similar terms against a Mr. S. J. DALY, a Member of the Royal College of Surgeons of London, for covering a Mr. BILLING, of Blackpool. This charge, on investigation, was proved to be true, and a similar penalty was inflicted upon Mr. DALY. Two other accusations were made against two other medical practitioners for covering, but both were dismissed by the Council. The action of the Council has been marked all through with absolute fairness, and the Council is to be congratulated in thus vindicating its position as the arbitrator in matters which are of the deepest importance to the profession. The punishment inflicted is severe; but as the object of law is not only to punish, but to deter, it is to be hoped that after a time, when the offence has been purged, the Council may take into their consideration the propriety of restoring their names to the Register.

Covering is very extensively practised, and these cases should serve as a warning to those who are now implicated. It is a popular opinion that the enforcement of law is always expensive. This has been again illustrated in connection with these cases, the sum of £800 being expended on the Council, owing to the length of the investigation. This is an enormous waste of money, and the Council have very wisely referred all future investigations to a committee. Had the two other charges been gone into, it would have involved another sacrifice of £800. The employment of unqualified assistants is on the decline, though there is still a large number engaged. Practitioners must remember that they are running a great risk, and that they may at any moment be brought up before the Council on the charge of delegating their duties to unqualified practitioners. We have previously expressed our opinion on the subject of unqualified assistants. We are of opinion that some *via media* should be established in regard to them. There are a number of men in their ranks who have acted as assistants for years, and it would be positive cruelty to turn them out on the world without a means of livelihood. The profession has nourished and encouraged these men, and the profession itself is to blame for the fact that we have unqualified assistants at all. Now in the *via media*, provision should be made for these gentlemen. We do not desire to sketch out a perfect scheme, but we may suggest the lines on which such an one should be drawn. There should be a proviso that unqualified assistants shall not any longer be tolerated (this is to prevent any addition to the ranks), save with the following exceptions:

(*a*) All unqualified assistants at present *bona fide* employed may continue to act under certain conditions.

(*b*) That the names of all unqualified assistants *bona fide* employed should be registered and published in a special book like the "Dentists' Register."

(*c*) That all registered should specify to the registrar whether they had attended any course of lectures on hospital practice, or how they had obtained entrance to the profession.

(*d*) That a certain number of certificates should accompany applications, such certificates to be signed by those who had employed the assistants, and certainly testifying to the character of the applicant.

In process of time all these registered assistants would die out, as no addition would be allowed to this Register. There would probably be a couple of thousand names sent in, and the registrar would have additional work on his shoulders for a short time, but we believe that in the end it would save him a large amount of trouble and correspondence. Many objections may be taken to such a scheme, and it is no doubt imperfect. We submit it for criticism, and hope it may receive the attention of some of our representatives on the Medical Council. Extreme men will say that we should not in any way countenance unqualified assistants, and we should drive them out of the profession at once. We answer, this would not be justice. The Council are fully alive to the importance of exercising disciplinary powers: we find appended to the minutes of the General Medical Council, November and December, 1888, a number of documents relating to the question from qualifying bodies. We know from the past that the colleges and the universities will not move in matters affecting their

licentiates or graduates, and it would be a retrogression to take away from the Council its disciplinary powers, and vest them in the qualified bodies themselves—in other words, that the qualifying bodies should first investigate the charge, remove, suspend, or censure, and that the Council should then give effect to the decision by ordering the erasure of the name from the Register. We trust that the Council will strongly resist any proposal of this nature.

The Council had to spend some days in considering the reports of the visitors to the examinations. It would appear that the Glasgow and Irish examinations, by insisting upon operative skill on the dead body as a test for examinations, are in advance of the other examinations. The following motion, passed by the Council, will no doubt stir up the English examining bodies to make their examinations on a level with the Glasgow and Irish examinations:

"That the Council, being of opinion that the performance of operations on the dead body is a highly important part of a complete test for the efficient practice of surgery, regrets that so many of the licensing bodies in England and Scotland have not hitherto felt themselves able to render their examinations complete in this respect; and the Council —while prepared to admit the existence of difficulties connected with the anatomical supply—earnestly recommends to those bodies to reconsider the means they might use for amending that part of their examination."

There has been a new issue of the Pharmacopœia. This sitting of the Council has not been an unprofitable one, and it certainly has moved in a direction which the profession has long desired it to take. If there be any desire on the part of the Council to rid itself of its disciplinary powers, we trust the profession at large will protest against such a proposal.

AT a recent meeting of the New York Academy of Medicine Dr. BOWDITCH, of Boston, read a paper on the subject of "Tolerance and Intolerance in Medicine," in which he strives to put back the hands of the clock. A certain section of the profession in America are anxious to do away with all codes, except the one of doing unto others as you would have them do to you—a code which, unfortunately, leaves too much to the individual and to his interpretation of this golden rule. The British Medical Association, the largest medical organization in the world, has, after repeated discussions, and after soliciting the opinion of its members by means of its branches, decided that homœopaths should be excluded from membership. This intolerance in an old country, where the profession is both in a higher state and better in hand than it is in America, should be taken into consideration by the New York Academy of Medicine before they accept Dr. BOWDITCH'S advice. In America, besides homœopaths, there is a large number of irregulars, and as far as we can gather from our American cotemporaries the profession is suffering from the competition of this irregular class of practice. On the other hand, the profession is striving to elevate itself by insisting on preliminary examinations, a graded course of not less than three years, with compulsory attendance on lectures, etc. Protests are made against the multiplication of schools. Schools which have not proper teaching facilities have been denounced by the press of America. Still more, in all the large American centres of education admirable post-graduate courses have been arranged to complete the education of those who have graduated, and to give another year of study. It is to the credit of the American Medical Association that they have adapted a high-toned code of ethics, and that it compels all affiliated societies to accept this code; and it is still more to the credit of American physicians that the majority of the State associations have cheerfully accepted the ethical rules laid down by the parent society. The New York State Society rebelled, and it met with the fate it justly deserved—it was expelled. Codes of ethics are at times very disagreeable. When a surgeon or physician has a consulting practice in such a centre say as New York, which abounds with irregulars, it requires a certain amount of abnegation to refuse to meet a homœopath, or eclectic; it means the sacrifice of so many dollars, or hundreds of dollars, and very often the irregular is the best client of the consultant. The code of ethics of the American Medical Association, just like our English code, has been framed in the best interest of the public as well as of the profession. In England homœopathy has been examined by such men as Dr. LAUDER BRUNTON, RINGER, etc., and its tenets have been pronounced unscientific. It has been rejected in France, Germany, and Austria, even though some of its professors are men of high integrity and intelligence. The cause is finished. We object to specific names being given to ourselves. We decline to be called allopaths, and we cannot countenance any body of men who give themselves distinctive names. The homœopaths have cut themselves off from the regular profession by their own choice. In England they have not increased in numbers, through our bigotry, nor has the profession lost caste, because, after calmly discussing their principles, we have rejected them. At the same meeting at which Dr. BOWDITCH read his paper, Dr. MCINTYRE also read a paper, entitled "Which is the Liberal School?" In the course of his paper he says, "These gentlemen built a wall round themselves, separating them from the general republic of medicine. This is the exact position, and the solution of the difficulty does not rest with us, but with those who have, of their own free will, adopted a name and title which has been but too often a cloak of ignorance and a trade-mark." The American Academy of Medicine deservedly occupies a high place in medicine. Its fellows are distinguished and known beyond their own country, so that whatever action they may take in this matter will be submitted to the criticism of the profession, not alone of America, but of the world. Dr. BOWDITCH says in his paper that "the Academy will not recover its just position until it rescinds the vote adopting the American code of ethics." In view of the action of the British Medical Association, we trust that the Academy will not hesitate in its answer in the negative. The golden rule of

life would no doubt be better than any code, but, unfortunately, we have found out in the process of civil government we cannot depend upon the acceptance by each individual of this high code. Even in New York we found the policemen patrolling the streets, and we believe that America has a penal code for those who transgress her laws. The American code of medical ethics is not a selfish one; it is not illiberal; it is not even framed for the protection of the profession—it is the public who gain by it. It may press, and does press rather hardly, on the very liberal-minded surgeon or physician who is willing to meet anyone for a consideration, but it does not press on the honourable or the high-minded, who have faith in medicine and medical teaching, and who will not sanction the various forms of charlatanism by which the public are deceived and cheated.

Annotations.

"Forsan et hæc olim meminisse juvabit."

CHRONIC LEAD POISONING.

We publish in our correspondence columns an admirable letter on the subject of lead poisoning—a personal experience of the writer, hence all the more valuable. The description given of the initial symptoms and progress of plumbism will put practitioners on the alert, especially when there is any doubt as to diagnosis.

THE BLACKPOOL PUBLIC AND THE MEDICAL COUNCIL.

The action of the Medical Council in ordering the erasure of the name of the practitioner who covered Mr. Billing has excited the indignation of a portion of the Blackpool public, and indignation meetings have been held to protest against the punishment inflicted by the Council. A clergyman presided at one of the meetings, and delivered a violent harangue, chiefly remarkable for its bad taste. It is very singular that amongst the clergy we find such strong supporters of unlicensed practitioners; but as we have often remarked before, education does not afford any protection against quackery. The Blackpool meeting is not deserving of notice, save as an illustration of mental blindness.

THE EDINBURGH SCANDALS.

We have received marked copies of the *Scotsman* and the *Scottish Leader* containing very strong articles on the recent decision of the University authorities on the matter in dispute between the professor of physiology and his late assistant. It is alleged that Professor Rutherford has been whitewashed, and that great dissatisfaction is felt at the manner in which the enquiry was held. It is impossible for us to pronounce an opinion, as we have not been able to read the evidence, as the enquiry was held in camera. It is probable that we shall hear more of the case this time in the Law Courts.

POST-GRADUATE SCHOOLS.

For some years post-graduate schools have existed in the United States, the one at New York being, we believe, the earliest, as it is now the most influential in America. The great success attending the American post-graduate courses has led to their introduction into England, and we are pleased to hear that a scheme is on foot to establish in London a Post-Graduate Polyclinic after the model of the New York one. We feel sure that young men just qualified will appreciate a course of lectures on special subjects which will equip them all the better for their life's-work, if the fee be kept within a moderate limit. It should be remembered that after qualification-fees, and after the expenditure during student life, funds have to be husbanded so that the question of the honorarium for the course is a very important one. The clinical material available in London is greater than that of any capital in the world.

MEDICAL PROVIDENCE.

We feel a pleasure in being able to still chronicle the financial success of the Medical Sickness and Life Assurance Society. We put the following facts before the profession and before its junior members. Upwards of £6,000 has been disbursed for sick pay, and £1,150 for death during the short time it has been in existence. As to security we can point out—that the Society has to its credit a capital of £28,000, invested in the soundest securities, and an increasing annual income from premiums. Accidents are included under the term "Sickness," and the liability to accidents, especially in the country, is well known. The Society owes its present position to the economical and efficient management of a few devoted medical men, who advance its interests. Junior practitioners should write for prospectuses to Mr. J. C. Radley, 26, Wynn-road, Brixton, London, S.W.

BRITISH MEDICAL ASSOCIATION.
LEEDS MEETING, 1889.

The programme of the Leeds meeting, 1889, is already issued. Judging by it, it promises to rival any former meetings. Leeds has a reputation to maintain, and it is evidently intending to keep up its prestige. The Association will meet on the 30th of July and following days, Mr. Wheelhouse being the President-elect. Dr. Hughlings Jackson will deliver the address in Medicine, and Mr. Teale that in Surgery, while a new element will be introduced into the public addresses by an oration on Psychology by Sir Crichton Browne. The Presidents of Sections will be: In Medicine, Dr. Clifford Allbutt; in Surgery, Mr. Jessop; in Obstetrics and Gynæcology, Mr. Cullingworth; in Public Medicine, Mr. Edison; in Psychology, Dr. Hack Tuke; in Pathology, Dr. Joseph Coats; in Ophthalmology, Mr. Anderson Critchett; in Diseases of Children, Dr. Scattergood; in Laryngology, Mr. Butlin; and in Otology, Mr. Field.

THE DRESS OF WOMEN.

It is an old saying, "when doctors disagree, who shall decide?" This is again illustrated by the discussion which is taking place on the value of the corset, and on braces *versus* the suspension of garments from the hips. It has lately been alleged that corsets are not injurious, and that they are admirably adapted for the purposes for which women now put them. Braces for suspending under garments have been recommended, so as to throw the weight off the pelvis. In the new form of dress this method is adopted, and *prima facie* it would appear to suggest advantages over the old method, but even this inovation will not be tolerated. The old system is held to be far superior in every way. Dress reform, we fear, is in the remote distance.

ELECTROLYSIS.

We recently published an account of Dr. Keye's experiments "On the Treatment of Urethral Stricture by Electrolysis," which were unfavourable to the methods at all points. We prognosticated that Dr. Newman would hardly be content to allow Dr. Key's observations to pass without protest, and we publish a reply which has been kindly forwarded to us by Dr. Steavenson. The accumulative evidence in favour of Dr. Newman's plan cannot be disposed of by the simple *ipse dixit* of any individual surgeon however eminent, and we therefore commend to our reader's attention Dr. Dickson's paper.

THE SACCHARINE CONTROVERSY.

A controversy has recently taken place between Dr. Pavy and M. Worms on the therapeutic action of saccharine, and Dr. Fahlberg has had to write to the journals in defence of his offspring. The Pavy-Worms controversy arose out of a mistake. Nothing can be gained in discussing a matter of this kind by imputing disinterested motives to those who condemn or use saccharine. It has been alleged that the objection to this agent in France arose from a desire to protect native industries—a conclusion hardly warranted by the facts. Mr. Worms, in his reply to Dr. Pavy, very justly emphasises this aspect of the question, and says: "M. Pavy et le rédacteur de la *Lancet* avec lui suspectent l'existence en France de *quelque motif puissant* pour déprécier ce qu'ils apellent la grande acquisition. Je ne me permettrai pas de supposer qu'il existe à l'étranger quelque motif puissant pour en dissimuler les inconvénients."

MEDICAL CLUBS.

At first sight it would appear that medical social clubs were very excellent institutions, that it was a good thing to bring members of the profession together, and out of such a numerous profession we ought to be able to support a club. Men with a partiality for club life actually prefer clubs in which the medical element is absent. The reason for this is not far to seek. Practitioners who seek relaxation at clubs desire to escape from professional associations, to thoroughly unbend their minds, and there is something in the atmosphere of a pure medical club redolent of what is technically known as "shop," for medical men, however social they may be, have a distinctive tendency to revert to medical topics, and to converse on what is uppermost in their minds. We regret to hear of the demise of the Galen Club.

EDGED TOOLS.

We published in the December number an account of Ortel's method of cure for certain heart affections. The fundamental principle appears to be that disturbed compensation is to be restored by exercising the heart. This is achieved by walking up hills, the walks being duly graduated and progressive. In suitable cases this system has no doubt been successful, but here comes the difficulty—which are the suitable cases? We all know that fatal results have followed from over exertion of a trifling character in cases of failing compensation, so that it appears to us that we are playing with edged tools in adopting the principle of exertion as the cure for failing heart. A note of warning has been struck in Germany by Leyden and other authorities, and it is reported by Scholl that harm has been done to patients who have been treated by Ortel himself. Each case of heart failure has of cause to be judged on its own merits.

WHAT IS PISTOIA POWDER?

In an article in the *L'Union Médicale*, December 11th, 1888, this question is put to the pharmacists. Pistoia is a town in Tuscany, at the foot of the Apennines, where there exists a religious community who prepare a powder possessing alleged sovereign virtues. The powder is of a green colour, and tastes slightly warm, leaving a bitter flavour in the mouth. The writer desires to know whether it is made of gentian, with some alkaline salt, etc. It is only sold by the kilo, divided into 365 packets; one to be taken every morning fasting in a large glass of water. Large quantities are sold and taken by persons who suffer from rheumatism. M. L—— in the *L'Union Médicale* says, in explanation of the reason why he desires to know the composition of the powder: "The public is unfortunately disposed to believe that medical men despise all medicines which are not first produced with the official stamp. This belief is false. Medical men have no other pre-occupation or interest but to cure, and they would be foolish not to accept measures for that end, no matter from whence they come. I say to the pharmacist, here is a powder at present mysterious, surprising effects of which, rightly or wrongly, are related, and the success of which appears to increase in proportion to the silence of the academy." Perhaps some English chemist could answer the question?

CAVEAT EMPTOR

Who is really responsible for adulterations—the seller or the buyer? we are inclined to blame the buyer. There is a fair market price for most articles, and in the instance of drugs

this is well known. If you want a good article you will have to pay a fair price, but if you insist upon obtaining something at a low figure which in the market is marked a high one, you must expect to be cheated. The seller cannot afford to give anything away, but he meets the difficulty by sophistication or adulteration. Cheapness has been pushed to such an extreme that you can have a suit of clothes for 8/6; who could expect wool *at that* price. The same is true of pharmaceutical preparations. The buyer is very largely responsible for the cutting down the prices, and for the evils of sweating. Supply is controlled by demand, so that in the case of adulteration it is the buyer who is very much to blame.

New Remedies.

Carbonaphtholic acid.—This new antiseptic is obtained by the action of carbonic acid on naphthol in the presence of sodium. It possesses powerful antiseptic properties, but in large doses it has proved poisonous to animals, and therefore requires to be used with caution. It is almost insoluble in water, but is sparingly soluble in a solution of borax and sodium phosphate, and also in ether and alcohol. A solution of one in 20,000 is said to kill putrefactive organisms, and one in 300 to stop decomposition, even when it is administered in an advanced stage.

The *Aluminium sulphites* are stated by Dr. Wade, in a paper lately read before the Michigan State Medical Association, to be valuable antiseptics, since they are non-poisonous and non-irritating. In cases where a soluble antiseptic is required, the persulphite is suitable, and the sesquisulphite, which is insoluble in water, is available in cases where an external insoluble application is desirable. Dr. Wade states that as much as thirty grains of the sesquisulphite have been taken internally without causing discomfort. He assumes that the germicidal power of these sulphites is not less than that of acetate of aluminium—viz., one to 6,310, and is therefore only about half the strength of that of bichloride of mercury. The sesquisulphite is prepared by mixing aqueous solutions of ten parts of potash alum and eight parts of sodium sulphite, and carefully washing and drying the precipitate. The persulphite is made by dissolving the freshly precipitated sesquisulphite in sulphurous acid and crystallising without heat.

Salicyl and *Thymol mercury* have been employed with good results in the treatment of syphilis. A 10 per cent. suspension of the remedy in liquid paraffin was used. Six or eight injections are said to cause the disappearance of the symptoms in a rapid and energetic manner. It is said to be nearly equal in this respect to a 10 per cent. "calomel oil," and to be far superior to "gray oil."

Pyrodin is the latest antipyretic, and is said to consist of acetylphenylhydrazine, or some nearly allied substance. Dr. Dreschfeld, of Manchester, has experimented with it on patients suffering from various fevers, and has published his results in the November number of the *Medical Chronicle*. He finds that it is a powerful antipyretic, reducing the fever temperature rapidly, and keeping it at a low level for several hours, producing at the same time marked diaphoresis, without either nausea, vomiting, or collapse. It appears to be specially applicable in cases of pneumonia, typhus, or scarlet fever. But it is not advisable to give repeated doses at short intervals, since then the drug acts toxically on the blood, and produces hæmoglobinæmia. Once in eighteen or twenty-six hours is often enough, unless the temperature is very high, and its use should not be continued for more than a few days. The dose for children is three or four grains, and for adults eight to twelve grains. It is considered by the author to be more powerful than either antipyrin, antifebrin, or phenacetin. It is a white crystalline powder, only sparingly soluble in cold water.

Benzanilid and *Salicyl anilide* are, with acetanilid (antifebrin), the only members of a series of anilides experimented with by Dr. Kahn, which have given good results as antipyretics. Benzanilid is claimed to possess the advantage over antifebrin that there is an absence of subsidiary action following its use. It is prepared by boiling together benzoic acid and aniline in equivalent proportions, or by the action of benzoyl chloride on aniline. It is a white crystalline powder, soluble in fifty-eight parts of alcohol at 20° C., or seven parts of boiling alcohol, but is difficultly soluble in ether. The dose for children is 0.1 to 0.6 gram.

Cerium oxalate is now recommended by Dr. Cheesman, of New York, as a valuable remedy for cough, especially for the earlier irritant cough of phthisis, for chronic bronchitis, and for spasmodic asthma, whooping cough, and measles. The dose is five grains, given early in the morning or at bedtime, and increased to ten grains or more. It should be given on an empty stomach in fairly large doses, rather than in frequent smaller doses. It is most advantageously used in the dry state. Doses of twenty grains, several times a day, have not produced any dangerous symptoms.

Saccharin has been the subject of a series of experiments by Drs. T. Stephenson and Woolridge, with the view to ascertain whether saccharin interferes with the digestive powers, as asserted. They find that it is quite innocuous when given in quantities even largely exceeding the amount that would be taken in ordinary diet; that it does not interfere with the processes of digestion when used in any practicable quantity; and that it may be administered for a considerable period without injuring the bodily functions.

Imperialine is the name of a new alkaloid recently obtained by Herr Fragner from the crown-imperial (*Fritillaria meleagris*), which yields it to the extent only of 0.08 to 0.12 per cent. It crystallizes in short needles, and although very slightly soluble in water, it yields a crystalline hydrochlorate, which is readily soluble in water and alcohol. Its formula is $C_{35}\ H_{60}\ N\ O_4$. It is said to possess a physiological action on the heart.

Dioscoea villora has been examined by M. Kalteyer, the active principle being hitherto unknown. It is found by M. Kalteyer to contain a substance allied to saponin in considerable quantity. A resinous principle obtained from the root, and known as dioscorein, is used by American eclectics in the treatment of colic.

Yeast has long been known to be of value when applied externally in the form of a poultice to gangrenous ulcers, etc.; but the value of its internal administration appears to have been recognised only by a few, since Dr. Heer has thought it advisable to publish the results obtained by him in the treatment of some contagious diseases. He says that bottom yeast acts as a remedy for diphtheria with a rapidity unequalled by no other. In scarlet fever, dysentery, and infantile diarrhœa, he has used it with favourable results. To this list may be added, from the experience of the writer, that it is very valuable in rapidly healing up the abscesses left sometimes after an attack of small-pox, when taken in doses of a teaspoonful in warm water with sugar three times a day. Dr. Heer recommends it in doses of one to three grains every two hours for children up to three years old, six to eight grains for older children, and ten to fifteen grains for adults.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. KESTEVEN, M.D.

Antiseptic Treatment of Abscesses. By Dr. Lucas Championnière (*Journal de Médecine de Paris*, November 18th, 1888).—Before opening the abscess, the cutaneous surface is to be washed with a solution of phenic acid; the bistoury that is used is to be immersed in phenic acid water, and the cavity to be injected with the same fluid. A drainage tube should be inserted, and covered with a thick layer of charpie impregnated with a solution of phenic acid and glycerine. The tube is to be removed, for the purpose of washing, at the end of twenty-four hours, and again covered with charpie. The whole to be covered with gummed oil-silk. Suppuration is lessened, and the cicatrix smaller under this plan, which is suitable in every respect for mammary abscess.

Hysteria from Poisonous Influence of Sulphuret of Carbon (*L'Union Médicale*, November 18th, 1888).—At the meeting of the Société Médicale des Hopitaux, November 9th, M. Marie reported two cases of hysterical hemiplegia in workers with sulphuret of carbon, in whom there existed hemianæsthesia with contraction of the field of vision and marked disturbance of the general and special sensibility. The zones of anæsthesia were not distributed according to the course of the nerves, but limited to a circular line passing through the proximal extremity of the limb. Motor trouble affecting the muscles of a portion or the whole of a limb. Not frequently convulsions occurred. There was constant headache and night-mare, emotional excess, and melancholy. In some instances the symptoms occurred suddenly, assuming an apoplectic form.

A Substitute for Tracheotomy and Intubation. By Dr. Edgar Holden, of Newark, New Jersey (*South-Western Medical Gazette*, Louisville, Ky., October, 1888).—Under this heading Dr. Holden read an excellent paper descriptive of a new and safe method of overcoming laryngeal obstruction. A short description was first given of its numerous causes, and of the sudden emergencies that call for the utmost haste in giving free access of air to the lungs as the only means of saving life. A long list of recorded mistakes, accidents, and dangers attending intubation was accompanied by a somewhat similar record in the history of tracheotomy. The ingenious instrument he presented is obviously so designed as to render most of these unfortunate complications impossible, while operating with greater ease and rapidity. Thin silver blades were introduced through the crico-thyroid membrane and passed between the vocal cords. These are separated by pressing together the two short external extremities, which are at right angles to the rest of the blade and united to each other by a hinge where they rest in the wound. Pressing the other ends together separates the inner blades between the vocal cords. Advantages :—Easy of introduction and removal ; cannot be displaced ; breathing through natural passages ; no interference with swallowing, etc. Also well adapted for removal of foreign bodies in the trachea. A drawing was next shown of a very long silver tracheotomy tube, designed by A. Gouguenheim, of France, the lower end having flexible spiral. Introduction easier, and injurious pressure avoided.

Sulphate of Physostigmina in Chorea (*Journal de Médecine de Paris*, November 18th, 1888).—M. Riess has recommended the hypodermic injection of physostigmina in chorea twice a day, in doses of a milligramme. He has seen the symptoms cease in five or six days. The influence is not so good in chronic cases. M. Riess has found satisfactory results from this treatment in tetanus, paralysis agitans, sclerosis of the medulla, and augmentation of reflex movements.

On the Anatomical Elements of Milk, and the Organisation of the Globules. By M. Bechamp (*Union Médicale*, November 20th, 1888).—M. Bechamp remarks that, contrary to former opinion, which he holds to be erroneous, it may be shown that milk is not an emulsion, that its globules are not simply fatty matter, but anatomical elements formed in the gland at the same time as the complex fluid in which they float, like the blood globules and leucocytes in liquor sanguinis ; that, in short, as stated by Dumas, they are vesicles or cells, furnished with envelopes. M. Bechamp further shows that milk contains, besides caseine, other coagulable substances, and that it curdles and ferments spontaneously without the aid of extraneous organic ferments. These globules may be isolated from cream or curds by mixture with diluted alcohol, and subsqeuent washing in a dilute alcoholic solution of sesquicarbonate of ammonia. The globules may be found intact in the field of a microscope.

Aggravated Hysteria : Favourable effects of Sulphur Baths. Dr. Schwarz, Baden bei Wien (*Centralblatt für Gynäkologie*, No. 46).—An anæmic patient, seven years of age, was suffering from functional derangement and psychical disturbance, with painfully tonic cramp in the extremities, so as almost to prevent locomotion. The cutaneous surface of the lower limbs was without sensibility as far as the middle of the thigh. The upper limbs were feeble, and so much affected with tremor as to prevent any manual work. The patient suffered also frequently from vertigo, faintings, and sleeplessness. The bowels acted only once in from eight to fourteen days. Menstruation had not occurred. After the use of five sulphur baths the catamenia appeared. After fifteen baths, the cramps of the lower extremities subsided ; after thirty-one baths, all other derangements disappeared.

Chresylic Acid—a new disinfectant By M. E. Gautrelet (*Journal de Médecine de Paris*, Nov. 25th, 1888).—This acid is the result of the action of caustic alkalies upon phenol, the action of which as a parasiticide is greatly augmented by the combination. The caustic properties, however, of the chresylic acid, M. Gautrelet adds, interferes with its general employment.

On the Treatment of Uterine Fibromata by Intra-uterine Electrolysis. By M. Delétang (*L'Union Médicale*, November 29th, 1888).—M. Delétang since 1884 has treated altogether 97 females, on the method of M. Apostoli. The immediate effects, as stated by M. Delétang, are : *a.* Contraction of the mass of the uterus and tumour. *b.* Congestion of all organs in the electric circuit ; this congestion, almost constant and persisting for hours, accompanied with colicky pains. *c.* Sudden suppression of pre-existing hæmorrhage. The secondary effects are the disappearance of hæmorrhage, and the amendment of functional derangement, together with the diminution of the morbid mass, and occasionally its total disappearance.

Case of Nephritis caused by a Cantharides Plaster. By Dr. Pennel (*Journal de Médecine de Paris*, November, 1888).—M. S—— æt. twenty-five years, contracted syphilis in April, 1888, and was immediately placed under mercurial and iodide treatment, which was continued till November. In June or July he had suffered from cough and night-sweats with pains beneath the clavicle, and some degree of emaciation. The syphilitic symptoms also became aggravated. In October a general improvement occurred. At the end of the month of November it was deemed advisable to supply a blister plaster. On December 5th, there was suddenly developed severe headache, with swelling of the features. General symptoms of nephritis continued until the end of January, when a sensible amendment took place. Albumen was present in the urine until the following April, when it disappeared ; the urine abundant and clear. Albumen had been present four and a half months. From this time convalescence was progressive. The interest in the above case was to be found in the suddenness and gravity of the symptoms, and Dr. Pennel observes, its correspondence with similar effects that he has witnessed from cantharides.

II.—NOTES FROM FRENCH JOURNALS.

By H. R. HATHERLY, M.R.C.S.

Congenital Fibro-myoma of the Tongue (*L'Union Médicale*).—Dr. Pancet has reported a case of congenital fibro-myoma of the tongue. The tumour had the appearance of a supernumerary tongue, and was about the size of a pigeon's egg. It was of rounded form, of yellowish colour, reddened in parts by the presence of small blood-vessels. The growth had become developed in the sub-mucous cellular tissue. It was adherent to the mucous membrane, and to the subjacent muscular tissue. The central portion consisted of one great fatty lobule, surrounded by fibrous tissue, yellowish, and rather hard. A histological examination proved the growth to be a fibro-lipoma.

Statistics of the Pasteur Institute (*Bulletin Médicale*).—During the month of September 121 persons were treated in the Pasteur Institute, of whom sixteen were bitten by animals whose madness was established by experiments ; seventy-five were bitten by animals recognised as being mad, after a veterinary examination ; and thirty were bitten by animals suspected of madness. There was one death—Jean Couzinier, æt. sixty-five, who was attacked by hydrophobia three days after the completion of treatment.

Infection of Tetanus (*L'Union Médicale*).—The discussion of Mr. Terrillon's paper, before the Chirurgical Society, has elicited from several members facts which seem to bear out the theory that cephalic tetanus is an infectious disease. The discussion is probably but a prelude to that which will take place at the Academy of Sciences and Medicine, when Dr. Verneuil brings up his report on the researches of MM. Berger and Richelot.

Total *versus* Partial Hysterectomy.—This is the subject for discussion at the next meeting of the Chirurgical Society.

Vulvo-vaginitis in Children (*L'Union Médicale*).—Dr. Ollivier looks upon vulvo-vaginitis as a contagious disease. Two children suffering from this affection were admitted under his care, and were, then, the only cases. Three weeks afterwards fifteen other children were successively attacked by the same disease. An enquiry into the causes of this outbreak elicited the following facts from the nurses :—The same sponge was used for all these children ; the nurses did not wash their hands ; the children used the same chamber vessels and closets, and the closets were not properly cleansed. No case of the disease occurred after Dr. Ollivier had adopted measures of strict cleanliness and disinfection. Dr. Ollivier and his assistants are endeavouring to discover a microbe, and its mode of transmission, by experimental methods.

Gift to the Association of French Medical Men (*L'Union Médicale*).—Dr. E. Belle, of Moissac, Tarn et Garonne, who died last September, has bequeathed to the Association the whole of his fortune, amounting to more than 100,000 francs. He directs that grants of 500 francs are to be made to medical men who have been unfortunate.

Hæmorrhage after Tooth Extraction (*L'Art Dentaire*).—M. Fouquet points out a very simple method of arresting the troublesome hæmorrhage which occasionally follows tooth extraction. He cuts a piece of cork in the form of a plug, to fill, as accurately as possible, the alveolus, the top part being left large enough to slightly overlap the gum. The closing of the jaws suffices to compress this improvised plug at will, and in a short time all hæmorrhage ceases.

Pyridine as a Cardiac Stimulant (*Journal des Sciences Médicales de Lille*).—Dr. De Renzi has found in pyridine a good cardiac stimulant. His conclusions are based on the action of this remedy in seven cases. He asserts (1) that pyridine given internally in daily doses of from six to ten drops in water, is well borne, and the dose may be gradually increased to twenty-five drops, and even more. (2) The remedy increases to a remarkable degree the cardiac systole, and diminishes the sense of oppression and anxiety. (3) The number of pulsations and respirations is lessened. (4) Arterial blood-pressure is increased. (5) Sphygmographic tracings indicate that the line of the ascending curve is raised, at the same time pulsation being more even; in one clearly arhythmic case the rhythm was entirely regained, and the pulse became perfectly regular and normal. (6) Pyridine has also cured angina pectoris, and has relieved the attack more rapidly and certainly than any other remedy.

Dislocation of the Coccyx of Long Standing (*L'Union Médicale*).—A case has been reported by Dr. Hue, in which the coccyx had remained dislocated for three years. The sitting posture was always painful, and a frequent change of attitude was needful. On making a rectal examination, Dr. Hue could easily diagnose a forward displacement of the bone projecting from the curve of the sacrum. The reduction was almost effected by the mere examination, and was accompanied by sharp pain and a desire to vomit. The patient was at once relieved of all distressing symptoms, there being only a dull sense of weight for a few days.

Large Ovarian Cyst (*L'Union Médicale*).—Dr. Petel exhibited, before the Medical Society of Rouen, an ovarian cyst of unusual dimensions. The circumference was one metre, and it weighed 15 kilogrammes, 300 grammes. The incision necessary for its extraction measured, eight days after the operation, thirty-seven centimetres.

Apostoli's Treatment (*L'Union Médicale*).—A new method of applying the galvanic current has been introduced by Apostoli, who applies an intra-uterine chemical galvano-caustic, which may be either positive or negative, according to the case. He has a double object: First to treat the mucous membrane of the endometrium, which is always unhealthy; and secondly, to utilise the interpolar trophic action to attack at the same time lesions of the parenchyma, which nearly always co-exist. He obtains an anatomical wasting, varying from a third to a fifth (but never the entire diminution of substance) a rapid and lasting cessation of hæmorrhage, a disappearance of the phenomena of compression, and general symptomatic relief.

Treatment of Intra-cranial Abscess following Disease of the Ear (*L'Union Médicale*).—Dr. Chauvel read a paper on this subject before the Academy of Medicine. A few years ago, if intra-cranial abscess was suspected, it was usual to advise non-intervention. In the present day, discoveries of the functions of the brain, and the impunity of operations which expose its substance, have rendered such a doctrine untenable. He relies upon the facts already published by several surgeons, and on two cases observed at Val de Grace, which had a fatal termination, as material for the following conclusions:—1. Intra-cranial abscesses which are consequent on lesions of the ear do not possess any definite symptomatology, so that they are difficult to diagnose with certainty. When there are reasons to suspect them, intervention is necessary, antisepticism rendering the operation itself but slightly dangerous; if there should be but one patient in ten cured, it would justify the operation. 2. These abscesses are generally situated in the temporo sphenoidal lobe. 3. When the direct treatment of otitis has been exhausted, and cerebral symptoms are evident, the mastoid apophysis must be trephined and a few days be allowed to pass, when if no improvement follow the skull must be opened. 4. The guiding points are: a horizontal line passing from the external commissure of the eyelid, two vertical lines passing one before and one behind the pavilion of the ear. The point to trephine is on the horizontal line, at an equal distance from the two vertical lines, and this point should correspond with the squamous portion of the temporal bone; the only blood vessels which can be met with are branches of the middle meningeal artery. 5. The cranium being opened, if there is an abscess a prominent and more resisting point will be found. It will be opened according to rule. Numerous failures may be expected, either from the trephining not having been made at the level of the abscess, or from the abscess being multiple.

Dilatation of the Uterus (*L'Union Médicale*).—Dr. de Saint Moulin, referring to recent advances in gynæcology, warmly supports uterine dilatation in the following instances:—1. In non-exudative pelvic peritonitis, pain which is the leading symptom can be entirely relieved. 2. In the exudative form of pelvic peritonitis, forcible dilatation by liberating the return circulation can arrest the progress of peri-uterine tumefactions, and facilitate the reabsorption of any exudation. 3. In cases of peri-uterine or pelvic abscess, which as a rule are only cysts of the fallopian tubes, the uterus being dilated, may be curetted, and the contents evacuated by the uterine canal. 4. In cases of puerperal septicæmia, the septic symptoms will rapidly disappear under this treatment; no other is so efficacious for the complete disinfection of the cavity of the uterus, which is a true nursery or manufactory for microbes. 5. Reflex symptoms, such as vomiting, are instantly removed by forcible dilatation of the uterine muscle. Thanks to rigorous antisepticism, this treatment may be considered harmless.

Consanguinity (*Journal de Médecine*).—Dr. Heliot writes as follows: It is known that the question of consanguinity has divided hygienists as well as anthropologists. It is found to be the origin of all the social groups which survive in the present day. Without going outside France there are hamlets, villages, and entire islands where relatationship is very general amongst the population, and where marriages betwixt relations in every degree does not prevent the race from prospering; but, on the other hand, it seems that family life like individual life is limited; and when we see whole races die out and become extinct, it seems that this arrest of human life extends to races as well as to families and individuals, a fact which does not, however, prevent heredity from transmitting both good and bad qualities. It is better that two vigorous cousins should be united than two puny strangers, and if families have degenerated through the subordination of the interests of health to the interests of fortune, by associating in this matter of marriage inheritance or names, when it would be of greater importance to provide for the future vitality and physiological state of the infants. There are, nevertheless, some who prosper by the same proceeding, providing those united are not monsters, idiots, or valetudinarians. He (Dr. Heliot) commenced the study of consanguinity in his father's practice, who had at an early period pointed out the dangers which attend consanguineous marriages; it is not without reason that he insists upon the authority derived from an extensive general practice to enable one to judge of the value of an opinion which had been affirmed by popular tradition, before being formulated by scientific bodies. Of the causes which lead to consanguineous marriages; difficulties of communication, sentimental feelings, and considerations of fortune appear to him superannuated and not commendable. He confines consanguinity within the sixth degree of relationship, and examples taken from an entire race—say, for instance, the Jewish race—appear to him rather to obscure than to throw light upon the question. There is a long list of diseases and infirmities which have been attributed to consanguineous marriages; such marriages may be considered as accentuating heredity, and searching out defective peculiarities, much, as zootechnic selection, brings out other qualities. Learned men have not been wanting to throw light on the subject, and Dr. Heliot reviews their researches, particularly those of his colleagues and of contemporary medical men. Personally he has sought out the causes of the prohibition which law and religion have established, at least in some countries. He does not think that legislators have been concerned solely with moral order. He treats with very little respect arguments founded on anthropology, remembering that the Jews, so often in opposition to his theory, furnish a larger proportion than other races of deaf mutes, imbeciles, idiots, etc. This result, according to Dr. Heliot, is not due, as might be thought, to the defective hygienic conditions under which the Jews live in all latitudes, but only to their consanguineous marriages. Passing to zootechnic proofs, Dr. Heliot rightly affirms, selection, as it is understood by breeders, has for its chief object to develop certain well-defined qualities, which are advantageous from a commercial or industrial point of view, but which are equally so in regard to the perpetuation and the vigour of the race. Statistics can alone decide this question, but statisticians are not agreed amongst themselves, besides which the statistical methods adopted are themselves open to objection. The impression which results from the examination of documentary evidence is that the amount of evidence is insufficient. Dr. Heliot's personal observations amount to fifty-three, which he deals with at length, and of those who condemn and those who approve of consanguineous marriages, he agrees with the former; he will not admit that toleration of them should extend in our social life in the case of infirmities and diseases. The utility of restricting the transmission of recognised evils, such as consumption, cancer, epilepsy, and insanity, should be recognised. "Individual liberty," says Dr. Heliot, "is a very good thing, but like everything else, should be subordinated to social well-being." He

hopes that those who have the best interests of family life and of society at heart will always exert themselves in opposition to consanguineous marriages.

A Man with a Tail (*L'Union Médicale*).—Dr. Piaturtsky has recently been consulted by a peasant, aged twenty-three, for a soft cylindrical tumour, seven centimetres long, and two centimetres in diameter, covered with hair, and presenting all the outward appearance of a tail; it seemed to be a prolongation or a continuation of the coccyx. This growth was amputated and examined. It consisted of a stroma of connective tissue, having blood vessels and nerves, and three layers of muscular tissue disposed in three bands. Many of the fibres had undergone fatty degeneration, and it was concluded that the atrophy resulted from disuse. The presence of muscular fibres, is enough to prove that the growth was a true congenital tail, and not simply an excrescence of the skin simulating a tail.

Treatment of Hydatids of Liver (*L'Union Médicale*).—Dr. Debove, notwithstanding that the progress of antisepticism has minimised the danger of laparotomy, prefers a simple puncture, followed by injection in the great majority of cases of hydatid disease of the liver. He describes two recent cases in which a cure had been obtained by simple puncture, evacuation of the fluid contents, and an injection of the sac of Van Swieten's fluid, or of a five per cent. solution of sulphate of copper, which was withdrawn after an interval of a few minutes. In one case erysipelas followed, and the high temperature may have contributed to the ultimate destruction of the hydatids.

III.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By VALERIUS IDELSON, M.D., BERNE.

Creolin as a Remedy for Ulcers and Wounds.—In the *Berliner Klinische Wochenschrift*, No. 46, 1887, and later on in the *Centralblatt fuer Gynecologie*, No. 6, 1888, Dr. Kortüm has published three articles in which he highly eulogises a new disinfecting compound patented by Messrs. W. Pearson and Co., of Hamburg, under the name of "creolin." According to the patentees' assertions, their mysterious preparation represents "a product of dry distillation of British coal of a peculiar kind." In the *Pharmaceutische Centralhalle* (No. 37, 1887), however, another well-known German firm, named "*Eisenbuettel's Chemische Fabrik*," has at once flatly declared that the so-called "creolin" is quite identical with the "sapo-carbolum crudum No. 2," issued by the firm in 1884, and representing nothing else than a solution of common green soap in crude carbolic acid, the difference consisting, in fact, solely in the price. While Pearson's "creolin" is sold at 200 marks per 100 kilogrammes, Eisenbuettel's "crude sapo-carbolum" costs only thirty-three marks for the same weight. However it might be, Dr. Kortüm has found the substance a most excellent disinfecting and antiseptic means both in surgical and obstetrical practice, while Dr. Froehner (*Archiv fuer Wissenschaftliche and Praktische Thierheilkunde*, 1887, vol. xiii., p. 341) has obtained from creolin best possible results in scabies, eczema, infectious bronchitis, broncho-pneumonia, gastro-intestinal catarrh, and other affections in lower animals. To verify these assertions, Dr. Josef F. Zemacki (proun., "Zematzkee," a Polish name) house-surgeon to the Obükhovsky Hospital, St. Petersburg, has undertaken (*Khirürgitchesky Vestnik*, Sept. and Oct., 1888, p. 586), at Dr. A. A. Troianoff's suggestion, a long series of clinical experiments on the creolin treatment of ulcers of various kinds, and wounds. A genuine preparation, obtained from Messrs. Pearson and Co., was used for the purpose. In every one of the author's cases, the parts affected were covered with a piece of common gauze soaked in a two-per-cent. aqueous emulsion of creolin, above which compress either a wax-paper, or tar-tow, or a moss-bag, was placed, the dressing being changed at first twice daily, but on later experiments only once every two days. Dr. Zemacki's conclusions may be briefly summed up as follows: (1) In unclean, deep gangrenous ulcers, with offensive flocky discharge, spongy bottom, and undermined or lacerated edges, creolin proves to be, undoubtedly, an excellent deodorising means, the odour strikingly decreasing after a single washing out with the solution, and disappearing altogether after a few compresses. Under the influence of the latter the ulcer rapidly becomes cleaner and covered with more or less profuse granulations, which, however, generally look somewhat flabby, "rather lifeless," and have a peculiar ashy-grey tint. (2) In chronic inveterated callous crural ulcers, with atonic, coarse, and sclerosed bottom, creolin is not only useless, but sometimes proves even decidedly injurious, "since it destroys the last traces of a vital reaction." The best treatment for the cases is thought to be, after all, adhesive plaster in the shape of strips. 3. In simple well-granulating ulcers, creolin acts on granulations and cutaneous surface nearly in the same way as carbolic solutions. (4) In syphilitic ulcers the drug acts solely as a deodorising and antiseptic means, but fails to bring about or accelerate their healing. The latter ensues only under the influence of usual specific remedies. (5) Creolin remains similarly ineffective in tubercular ulcers which improve under iodoform, as well as in scorbutic ones which yield to compresses soaked in aromatic vinegar. (6) In superficial cutaneous ulcers, abrasions, fissures, and similar lesions associated with intense pain, tenderness, and irritation, creoline, as an antiphlogistic or soothing means, is absolutely good for nothing. Not only redness, swelling, and pain remains unaltered, but there supervene, in addition, all unmistakable signs of an increased local irritation, the patient complaining of discomfort and painful sensations of varying description. A warming compress soaked in a boracic, carbolic, or sublimate corrosive solution, relieves the symptoms, as a rule, within twenty-four hours. (7) Similarly, in recent (surgical cut) wounds, creolin gives rise to intense, and sometimes even intolerable local burning and pain; in short, acts as a caustic means. Dr. Zemacki's general conclusion is to the effect that "as far as human beings are concerned, creolin is useful only as a deodorising agent, in which regard it may be placed on a level with Dïanin's trichlorphenol (*vide* the *London Medical Record*, April, 1883, p. 132); but the drug is entirely worthless as an antiseptic means, while, on the other hand, it possesses fairly considerable caustic properties." The latter, possibly, may be discovered also in Dr. Zemacki's remarks, which are evidently addressed to Drs. Kortüm and Froehnel, and in which he expresses a hope that, after Eisenbuettel's declaration, "hardly anybody will go on with recommending a crude potassic green soap dissolved in a crude carbolic acid as a most splendid antiseptic means." The author expects, on the whole, that "a more or less suitable place for creolin might be yet found in veterinarian practice, but by no means in that amongst some higher animals."

Hypodermic Injection of Antipyrin and Cocaine in Sciatica.—Following the instance of Professor Germain Sée, of Paris, Dr. Lazar I. Osherovsky, of Sükhüm-Kalë, Kütaïs Government, treated (*Proceedings of the Caucasian Medical Society*, June 13, 1888, p. 83) four cases of severe sciatica by the hypodermic injection of antipyrin with cocaine after the following formula:

℞ Antipyrin, aq. destill. .....ana ʒ j.
Cocaini. hydrochlor .....gr. ss.

M.D.S.—To inject under the skin from ten to sixteen drops (*i.e.*, from five to eight grains of antipyrin and from $\frac{1}{12}$th to $\frac{1}{8}$th of a grain of cocaine) once daily.

The solution was injected very slowly and deep into the femoral cellular tissue, the injection being followed by firmly rubbing the parts for three minutes. In one case referring to a robust lady of fifty, with an intense rheumatic neuralgia of the left thigh, the very first injection brought about immediately a striking relief, a complete and permanent recovery ensuing after five sittings. In another patient, an emaciated male peasant of thirty-five, with an incessant (day and night) agonising pain along both his lower limbs of three and a half months' standing, and of a rheumatic origin, cure followed after twelve injections (five into the left thigh, seven into the right one). In a third case, in that of a retired ship-master, aged fifty-two, with rheumatic left-sided sciatica of two years duration, the injections brought but a temporary relief, a permanent recovery taking place only after a month's faradic treatment. The fourth case refers to Dr. Osherovsky himself, who had frequently been suffering from neuralgic pains in the whole region of the right sciatic nerve, and had recently caught a bad neuralgia from exposure. He cured himself by three injections of the solution. Having analysed his cases, and reviewed the literature of the subject, the writer comes to the following conclusions: (1) Antipyrin represents a powerful nervine remedy, which can not only relieve pain, but even cure neuralgia. (2) It has an important advantage over morphium in its being free from such accessory effects as giddiness, sickness, drowsiness, general excitement, and other symptoms which are apt to follow the administration of morphium. (3) A hypodermic use of the drug should be preferred to an internal one, since (*a*) the former requires smaller and less frequent doses comparatively with the latter, and (*b*) when injected under the skin, the drug soothes pain far more rapidly than when given internally.

[Referring to Dr. Osherovsky's statement *sub* 2, Dr. E. P. Gaüdelin, of Tiflis, says (*l. c.*, p. 89) that antipyrin is not altogether free from unpleasant accessory effects. For instance, he happened to see a case where a single five-grain dose of the drug, taken internally by a nervous, but otherwise quite healthy lady, gave rise to an alarming swoon which lasted for several hours, notwithstanding the administration of stimulants and analytics. Hence it is advisable to "begin always with small doses in order to previously determine an individual reaction of the person given."—*Reporter.*]

Acute Muscular Atrophy following a Traumatic Injury to the Head.—In the Polish *Przeglad Lekarski*, July 14th, 1888, Dr. Idzinski adduces a remarkable case of acute organic atrophy of several muscles,

caused apparently by some traumatic lesion of the brain. The patient, a previously healthy soldier, æt. twenty-four, received a violent blow on his vertex from an unknown person and by an unknown weapon, the affair occurring one dark night. The patient did not lose consciousness, and even was able to run after his assailant. The wound inflicted was situated in the right parietal region, two centimetres from the saggital suture, and three from the frontal and parietal tubers, only the scalp being injured. In the period of its healing the man experienced a pricking pain and failure of mobility about the left shoulder. On examination, about two weeks after the accident, there was found a pronounced atrophy of the left deltoid, biceps, supraspinate and infraspinate muscles, the remaining muscles of the body being well developed and healthy. Of all active movements of the left shoulder joint, only lifting up the extremity was preserved. Sensibility, internal organs, in fact everything beside the said muscles, were found normal. Dr. Idzinski thinks that the wasting resulted from "some molecular change in the corresponding motor area of the brain." The case is said to be yet unique.

On Hæmorrhagic Infections.—Basing his statements on ten fatal cases examined anatomically and bacterioscopically, Professor Jaroslav Hlava, of Prague, in Bohemia, says (*Wiadomosci Lekarskie*, August 1888, p. 54) that in an overwhelming majority of cases, hæmorrhagic infection represents only a secondary phenomenon, caused either by the sterepto-coccus or by the *bacillus septico-pyæmicus*. In some rare cases, however, there can arise an *infectis hæmorrhagica primaria*, which is then to be regarded as "a severe intoxication caused by microbes of putrefaction (*microbe guilne*).

Cæsarean Section at Cracow.—At the recent general meeting of practitioners at Lvov, in Austrian Galicia, Dr. Stanislaw Braun, of Cracow, has read (*Wiadomosci Lekarskie*, August, 1888, p. 67) an interesting paper on the only three cases of Cæsarean section performed in Professor M. Madurowicz's clinic during the last eighteen years. In the first case (1870) the operation (after the classical method) was resorted to on account of an enormous tumour, connected with the right crural nerve, firmly adherent with its surroundings, and filling up the whole minor pelvis. The (asphyctic) fœtus was resuscitated, but the mother died from hæmorrhage and peritonitis three days later. The other two cases (1887) refer to dwarfs with a generally narrowed, flattened, and scoliosed pelvis, in one of whom Porro's, and in the other Saenger's operation was performed, both the mothers and infants remaining alive and sound. In the case operated upon after Saenger's plan, the uterine wound was closed with three *etage* sutures (stout chromicised catgut, No. 3), the patient leaving in best state about the sixth week after the operation.

Gastric Hæmorrhage Caused by Embolism of the Gastric Arteries.—At the meeting of the Gesellschaft der Aerzte, in Zurich, Dr. Hermann Mueller has communicated (*Correspondenz Blatt fuer Schweizer Aerzte*, November 1st, 1888, p. 667) an extremely rare case of the kind. A habitually rather anæmic, but otherwise fairly healthy man, aged fifty-seven, applied to Dr. Nuescheler on account of acute dry bronchitis. Three days later, in the morning, there appeared quite suddenly nausea, intestinal tenesmus, and a profuse vomiting with blood, the patient swooning close to his bed. At noon, and about ten p.m., the attack recurred, an enormous quantity of blood being ejected each time. For the following three days the patient's state somewhat improved, the only symptoms being an extreme burning and intolerable headache with abdominal pains. On the fourth day, the morning temperature rose up to 38·6° C. Dr. Mueller having been called for consultation, both the doctors came to the conclusion that the patient was suffering from a gastric ulcer, which up to the present had been running a latent course. On the 5th day, a deep swoon suddenly occurred, the patient lying quietly in bed at the time. On the sixth day he died. At the necropsy, the stomach and small bowel were found distended with blood-clots, the mucous membrane in the pyloric half of the organ being of a dark blue-red colour and studded with ecchymoses. The left kidney contained a recent hæmorrhagic infarctus of the size of a cherry. The heart was flabby, but its valves presented nothing abnormal beyond a few small sized atheromatous patches. In the aorta, however, especially in its ascending portion, there were scattered several atheromatous ulcers, of which two were covered with rather old, firmly adhering fibrine deposits. The latter, undoubtedly, represented the source both for the renal and gastric embolism.

Professor Nasïloff on Hot Compresses in Surgical Practice.—In the *Vratch*, No. 42, 1888, p. 825, Professor Ivan I. Nasïloff, of St. Petersburg, writes that he has treated by scalding hot compresses (*a*) five cases of chronic scrofulous disease of cervical or axillary lymphatic glands; (*b*) two cases of rheumatic osteo-myelitis of the humerus (near the shoulder-joint); and (*c*) two cases of fungous arthrophlogosis of the knee-joint. The mode of application was invariably this. Having soaked a compress (a linen rag of sufficient size, folded four times) in a mixture consisting of equal parts of ordinary water and a Staraia-Rüssa saline brine, and having the temperature of from 70° to 80° Reaum., he swiftly wrung out from it any excessive fluid, and spread it over the region affected, and, to prevent cooling down, covered the compress with a thick layer of cotton wool, the temperature under the dressing (that is, between the compress and the part) varying between 45° and 65° Reaum. As soon as a very lively burning pain commenced to vanish, which usually occurred in two or three minutes, another compress was similarly applied, to be replaced by a fresh one in as many minutes, and so on, for fifteen minutes at a sitting, twice daily (morning and evening), during the interval the part being kept wrapped in cotton wool. The inferences drawn by Professor Nasïloff from his clinical experiments may be summed up as follows:—1. Hot water compresses produce intense redness, and even blistering—that is, the first and second degrees of scald—of the skin. 2. At the same time, they most distinctly act also on deeper situated structures. 3. In cases of scrofulous lymphatic inflammation, they fairly rapidly induce disintegration of glandular masses with a temporary increase of suppuration. 4. Neither the cutaneous changes, nor initial rather profuse suppuration do contra-indicate a further use of hot compresses. In course of time, purulent discharge from sinuses becomes scantier and ceases altogether, purulent accumulations are re-absorbed, glandular tumours strikingly decrease in their bulk, etc. 5. The earlier hot compresses are resorted to in scrofulous inflammation of glands, the sooner they commence to manifest a distinctly beneficial influence on the disease. 6. Hot compresses are, most decidedly, of great service also in rheumatic osteomyelitis, and even in fungous disease of joints. [In the author's osteo-myelitic cases, a complete and permanent recovery was obtained after a course of two and a half months' duration; in the arthritic, after that of three weeks, respectively forty-three days.] 7. The re-absorption of inflammatory products is always accompanied by febrile movements of varying intensity, the evening temperature rising sometimes up to 39° C., but usually oscillating about 38° C. 8. The temperature seems to oscillate the more intensely, the more numerous the inflammatory foci are which are undergoing re-absorption. 9. The more markedly inflammatory swelling decreases, the more intense the oscillations become. 10. Both the pyrexia and defervescence (after the discontinuance of the treatment) present individual variations in regard to time, in the sense that in some cases they occur relatively early, in some comparatively late. It appears, however, that the longer the duration of the treatment is, the more slowly the temperature returns to the standard. 11. Be the thermic oscillations rather considerable, the treatment must be discontinued for a while, until the temperature regains its normal condition.

[Leaving aside everything in regard to actual therapeutic merits of Professor Nasïloff's treatment, we cannot help observing that the distinguished surgeon's method presents an exceedingly grave drawback in its being cruel, if not barbarous, since it is, in fact, nothing else than deliberately scalding the patient for a quarter of an hour twice daily, with usual consecutive incessant pain and discomfort during the intervals between the morning and evening tortures. In so far, this "hot" plan obviously stands in an utter opposition towards modern "humanising" tendencies of our healing art, which strives to find out such methods for relieving the sick fellow-man's sufferings as do not involve any additional pain, or even discomfort. The patient's ideal subjective well-being must ever be one of the aims and guides of our behaviour all through, in accordance with "the great ethical principle of our profession—that we should endeavour, as far as lies in our power, to preserve life as well as alleviate pain" (see Professor Victor Horsley's most admirable paper in the *British Medical Journal*, June 9th, 1888, p. 1211). Any such methods for "relieving" the patient's sufferings as inflict additional pain are, undoubtedly, violating the said principle. *Vide* also the PROVINCIAL MEDICAL JOURNAL, July 2nd, 1888, p. 323.—*Reporter.*]

On Perforating Intestinal Ulcers.—In the *Vratch*, No. 40, 1888, p. 788, Dr. Vladimïr F. Büshüieff, of St. Petersburg, details an instructive case of a strongly made and previously quite healthy daily labourer, æt. seventy-three, who, when trying to lift up a heavy palliasse one evening, had suddenly felt an acute violent pain about the right side of his abdomen, followed by a deep swoon of ten or fifteen minutes' duration, and later on by severe vomiting and diarrhœa. When admitted to Professor D. I. Koshlakoff's clinic on the next morning, he was suffering from agonising abdominal pain and tenderness, extreme general prostration, tympanites, fever—in short, presented all symptoms of acute general peritonitis. About forty-eight hours after the first symptoms he died. At the necropsy, the peritoneal cavity was found to contain a moderate quantity of a yellow, turbid fluid with a fæcal odour. Intestinal coils were glued together with recent fibrinous pseudo-membranes,

the gastric mucous membrane being tumefied and studded with red and black patches of varying size, while the intestinal canal was anæmic and rather flabby. On the mesenterial aspect of the jejunum, ten feet from the ileo-cæcal valve, there was situated longitudinally an irregularly oblong perforating ulcer, measuring seven millimetres in length and three in maximal breadth, and containing a small-sized fish vertebra fixed with its sharp curved ribs at the extremities of the perforation. The foreign body could be freed without the slightest difficulty. Analysing his case, Dr. Büshüieff dwells mainly on the following points of considerable practical interest:—1. The peritonitis obviously resulted from perforation of an ex-ulcerated bowel, while the ulceration, in its turn, had been caused by the presence of the fish bone, swallowed during a hearty meal. In common with many British and American clinicists, Professor V. A. Manasseïn has been for many years past emphatically drawing attention to the fact that a hasty and generally imperfect mastication of food does play a very important *rôle* in the development of dyspepsia and catarrhs. Dr. Büshüieff's case points out that a neglectful performance of the act can lead even to intestinal ulceration with a fatal issue. It might seem quite superfluous to insist on so trivial a point as that everybody (as well as "everybody's wife and children," of course) must chew his food most thoroughly. However, the matter is still utterly neglected by the laity, and that not only by so-called "lower," or "ignorant classes" (which, being simultaneously hard working classes, have but very little time for their meals), but even by "higher," or "educated society." As Professor Koshlakoff states, those "betters" are "usually taking their meals so incautiously that they often manage to swallow a wood-hen's clavicular arch in its intact state."

2. Had no accidental perforation of the bowel, but only a superficial extension of the ulcer, occurred in the case above, the foreign body might easily become free and be ultimately expelled *per anum*, leaving then a lesion which on the necropsy would be undoubtedly placed amongst the category of "intestinal ulcers of an unknown causation," the group which, as far as duodenal ulcers are concerned, embraces as many as 33.7 per cent. of all cases of the lesion (according to Dobroklonsky's statistics; *vide infra*). Hence, a supposition naturally arises that many intestinal as well as gastric ulcers of the said obscure category can actually derive their origin in the mucous membrane being wounded and irritated by various foreign bodies (such as bones, small-sized sharp stones, glass splinters, etc.) which, having been swallowed, get entangled between some folds of the gastro-intestinal mucous membrane. The fact that some more or less biggish foreign bodies (money-pieces, etc.), when swallowed by the patient, may not unfrequently pass through his digestive tract *apparently* without any harmful influence on the latter, cannot possibly speak against the hypothesis, since "in such cases, nobody can either assert or deny that they *actually* leave no traces or injuries in their passage through the patient's stomach and bowels." As a matter of fact, "peptic ulcers" may run their course quite latently for a prolonged period, and even may completely heal through cicatrisation.

3. The traumatic hypothesis furnishes a satisfactory explanation for certain clinical facts which otherwise remain quite mysterious. Thus, it is well known that peptic ulcers occur most frequently in the stomach and commencement of the duodenum; less frequently, about the middle and terminal portions of the latter; and by far still more rarely in the jejunum and ileum. That order of frequency may be explained, Dr. Büshüieff thinks, simply by this circumstance, that the stomach and upper portion of the intestinal tract are wounded and irritated by foreign bodies, naturally, earlier, and more frequently than the lower portions of the tract. Further, it is familiar with all that in children peptic ulcers are met with but exceeding rarely, comparatively with adults (according to Brunton, infantile gastric ulcers constitute 0.8 per cent. of all cases of the lesion; according to Dobroklonsky, only 6.3 per cent. of all cases of duodenal ulcer refer to children). Dr. Büshüieff supposes that the relative immunity may be ascribed to the circumstance that children's feeding is comparatively better attended to (in mechanical regards), even amongst the lower classes of the community, since the surrounding adults, usually, are anxious to prevent the child's choking and such like accidents.

The traumatic hypothesis throws some light on Dr. Eduard Sperk's observations (*vide* the *Lovtzoff's Medico-Topografitchesky Sbornik*, 1870, vol. i., p. 18), according to which gastric ulcer is spread exceedingly widely amongst the inhabitants of the Okhotsk and Gÿghïnsk districts (situated in East Siberia, along the coast of the Okhotsk Sea), whose staple food article is fish; while amongst the population of the neighbouring Amür District where there largely prevails a vegetable dietary, the ulcer represents a but very rare occurrence (*ibid.*, p. 29). The hypothesis helps us to understand also why an imperfect mastication appears to have an important significance in the etiology of gastric ulcer, as Professor H. Eichhorst, of Zurich, points out.

[In the *Ejenedelnaia Klinitcheskaia Gazeta*, Nos. 21 and 22, 1886, p. 300, Dr. V. P. Dobroklonsky, of St. Petersburg, publishes a case of perforating ulcer of the duodenum, near the pyloric valve, referring to a labourer of sixty, and ending in death from fulminant general peritonitis. Having reviewed international literature, the author was able to collect 190 cases of duodenal ulcer (of these about fifty from the Anglo-American literature). The following results of Dr. Dobroklonsky's statistical inquiry deserve to be placed before our readers. 1. *Sex.*—Of 184 cases, 142 (77.2 per cent.) refer to male patients, and only 42 (22.8 per cent.) to women. 2. *Age.*—Of 171 cases, 32 refer to the age between 30 and 40; 31 to 50-60; 23 to 40-50; 20 to 20-30; 18 to 10-20; 17 to 60-70; 12 to 1-10; 6 to 70-80; 2 to 80-90. 3. *Etiology.*—Of 95 cases, in 32.6 (33.7 per cent.) nothing abnormal beyond a duodenal ulcer, could be detected by a most careful examinaton; of the remaining 63 (66.3 per cent.), in 17 (17.9 per cent.) there was found, besides the ulcer, some morbid lesion of the heart or large arteries; in 25 (26.3 per cent.) pulmonary affections (in 20 chronic pneumonia); in 3 (3.2 per cent.) pleurisy; in 1 (1.1 per cent.) peritonitis; in 21 (22.1 per cent.) hepatic disease; in 17 (17.9 per cent.) renal; in 5 (52.5 per cent.) gastric; in 2 (2.2 per cent.) pylephlebitis suppurativa; and in 2 (2.2 per cent.) gall-stones in the gall-bladder. 4. *Anatomy.*—Of 137 cases, in 125 (91.4 per cent.) the ulcer was situated in the upper horizontal portion of the duodenum; in 10 (7.3 per cent.) in the descending; and in 2 (1.4 per cent.) in the lower horizontal. Of 58 cases of an upper horizontal ulcer, in 22 (37.9 per cent.) it was situated on the anterior wall; in 28 (48.3 per cent.) on the posterior; in 4 (7.4 per cent.) on the upper; and in 4 (7.4 per cent.) on the lower. 5. *Symptomatology.*—Of 190 cases, in 25.8 per cent., the course of the disease was perfectly latent up to a final development of perforative peritonitis, or up to the patient's death. In 47.5 per cent. there were present anorexia, eructations, nausea, vomiting with food, mucus, and gall; in 18.3 per cent. hæmatemesis; in 9.2 per cent. blood-stained stools; in 10.8 per cent. jaundice; in 49.2 per cent. abdominal pain. 6. *Issue.*—In 65.8 per cent. death followed from perforative peritonitis, and in 22.5 from hæmorrhage (either from the duodeno-pancreatic artery, or even from the aorta), while the remaining patients either died from exhaustion, or—very rarely—recovered, to die subsequently from secondary cicatricial stenosis of the duodenum.—*Reporter.*]

IV.—PUBLIC HEALTH.

Dr. Whiteside Hime on Milk in Relation to Scarlatina.—In the recent report issued by the Privy Council, "On the Eruptive Diseases of the Teat and Udders of Cows in relation to Scarlet Fever in Man," prepared by Professor Brown, the following observations by Dr. Whiteside Hime are included:—

"A new and mainly economical difficulty has arisen from the reported danger of the infection being spread by milk. The seriousness of the loss inflicted on farmers and milk dealers by the mere suspicion that their milk may be infected is very great, the sale of milk being almost the sole source of income of the milk seller. But when in addition to the loss thus inflicted by suspicion aroused in the public mind there is added the authoritative dictum of the sanitary authority or of medical officers and practitioners of repute that scarlet fever in a particular district has actually been caused by infected milk, then, indeed, the milk dealer's cup may be said to be full, his business is ruined, and thousands of gallons of milk are condemmed as being dangerous to the health and life of the consumers. A very uneasy feeling as to scarlet fever has undoubtedly prevailed for some years among the general public and the more active sanitary authorities throughout the country, to say nothing of those who have been suspected and even definitely charged with having spread broadcast the specific infection of so dire a disease in the carrying out their commercial undertakings. Hence the announcements that 'the essence of the disease' had been discovered, and that skilled experts had tracked it to its very source and primal origin, at once interested the public as well as the official sanitary world. That so much had been done in this direction with reference to Asiatic cholera, fowl cholera anthrax, and other diseases of much less direct and serious import to the inhabitants of this country, had often been referred to in a reproachful way, as militating against the practical value of bacteriological research. But here at last was a discovery with regard to one of the most prevalent aud most dreaded of the diseases of everyday occurrence. Naturally great expectations were excited from the announcement that the first essential step towards the prevention of scarlet fever had been successfully made in the discovery of the specific organism to which the disease is due. Professor Klein's statements on the subject are sufficiently explicit and detailed, and he alleges that the micrococcus scarlatina has been found, he describes it 'morphologically distinguishable from any other known form of micrococcus,' and 'has a definite mode of

existence of its own.' Further, his report states that calves inoculated with the blood of human beings suffering from scarlet fever, and also with artificial cultivations of the micrococcus taken from human patients with scarlet fever, developed the same symptoms as were shown by the original animals of Hendon, and the micrococcus, 'the essence of the disease,' was found in their blood and other tissues. Subsequently, some condensed milk, suspected of having caused scarlet fever, was found by Professor Klein to contain a micrococcus 'which, in its morphological and cultured characters, bears a striking resemblance to the micrococcus scarlatinæ of the Hendon cows and of human scarlatina.' Inoculation of calves with the micrococcus produced the characteristic symptoms in the animals, and led to the reproduction in them of an organism identical with that inoculated. Scarlet fever has always been regarded as an eminently contagious disease, transferable from the sick to the sound by immediate and mediate communication; by direct contact, through the medium of infected air and by the agency of infected articles, such as clothing. In the vast majority of cases there is little difficulty in ascertaining the source of infection. But at times the most persevering investigation fails to suggest when the danger has arisen, and the baffled inquirer has been fain to assume a cause, unless indeed he possessed that quality so invaluable to the scientific inquirer, namely, the moral courage to admit his inability to assign a satisfactory origin of the disease. . . . . The circumstances connected with the serious prevalence of scarlet fever in Bradford during 1887 were certainly not such as to warrant the assumption that infected milk was the cause, or even an accessory agent. The reader, however, will judge for himself. The evidence is simple in character, and very large—larger, indeed, in one respect, and more complete, than in the case of any of those towns where epidemics of scarlet fever have been attributed to infected milk with which I am acquainted. I refer to the important fact that I was aware not only of those cases in which certain individuals acquired scarlet fever who drank milk from the suspected source, but I also know all the cases which did not take it, although drinking from the same can. And no less important is the additional fact that I not only knew the cases of scarlet fever which occurred among the customers of a particular dairy, but I knew every case of scarlet fever in the town. The notification of cases of infectious diseases has been compulsory in Bradford since 1881, and is carried out with great loyalty and punctuality by the medical practitioners of the town. In addition to the important information furnished by means of notification, I was also enabled, under a local Act, to obtain the full list of names and addresses of all the customers of any milk seller in the town with regard to the character of whose milk there was any ground for suspicion. So far as I am aware, such full information was not in the possession of any of those who have reported an epidemic of scarlet fever as being due to milk, or, as it has become the fashion to term it, 'milk scarlet fever,' the assumed cause of the disease being asserted by the significate terminology. Indeed, it is a notable lacuna in the evidence in these reports that usually only those cases of scarlet fever, are known which happened to be among the customers of a particular dairy, while nothing is known or reported as to the existence of the disease, possibly prevalent in much more extensive form, among those who were in no way connected with the condemned milk supply. This serious defect in the evidence in such cases must strike every impartial inquirer. It might be perfectly true that a large number of persons infected with smallpox in a certain town banked at the same establishment, and a hasty conclusion might be adopted in consequence that 'in some mysterious way' (to quote the words of the author above referred to) the disease was connected with the bank. But further inquiry might show that not only the clients of this bank, but persons not banking accounts at all, were suffering from the same disease. The absurdity of the conclusion which convicted the bank as the source of the disease is plain enough. But the same error has been frequently committed with regard to scarlet fever, the method of argument being as follows:—Some of the customers of a certain dairy or even many of them have scarlet fever, therefore, the dairy is, 'in some mysterious way,' the cause of the disease. That the dairy is at fault is assumed; and even it, as in the case referred to already, the cows are manifestly healthy, and the dairy-folk are perfectly free from suspicion of disease, all the same the dairy is declared to be the source of the disease! The existence of scarlet fever in other parts of the town, although in itself quite sufficient to account for the cases among the customers of the dairy, is ignored altogether; and the possibility of the infection having been acquired from them is never entertained. Even casual inquiry will show that many of the inhabitants of the same streets or districts usually obtain their supplies of food, clothing etc., at the same store. There would not be the least difficulty in proving that of a certain number of persons suffering from scarlet fever, or bronchitis, or pluerisy, or broken legs, a considerable number dealt with the same baker, or fishmonger, and beyond all doubt the same chemist would be found supplying a large number of such sufferers with physic. At the same time it would be found that the customers of other bakers, grocers, chemists, etc., were not so suffering. Hence it might be argued that the patients were infected by the shopkeepers in question with whom they dealt. As a fact, the great bulk of the cases of scarlet fever in Bradford were attended by a few medical men, while a large number had not one patient. If compulsory notification had not been in force here, an inquirer might have discovered this fact: that while Doctor A had forty cases of scarlet fever under his care, Dr. B had not a single patient. Would he on this account have been justified in concluding that Dr. A was the source when the disease spread? But this is exactly the argument used to convict the milk seller. The customers of the dairy are found to be suffering from scarlet fever, while the customers of another escape, *therefore* the first dairy caused the disease! This is not a suitable place to discuss the purely scientific aspects of the supposed discovery of 'the essence' of scarlet fever, or of the general evidence on which the convictions of the cows at Hendon of being the originators of an outbreak of human scarlatina rests. There are, however, several weak points in this portion of the case. But the matter is of such vast importance, and the consequence of the acceptance of a false theory are likely to be so disastrous, that I think it well worth while to give the outline of an experience on the largest scale hitherto recorded, so far as I am aware, in any one place in reference to epidemic scarlet fever and milk. It may be well first to ask whether it is not remarkable that the disease of the Hendon cows, the alleged cause of human scarlet fever, is only known to veterinary surgeons, farmers, and those who are familiar with cows as common cowpox. Scarlet fever has been known for ages, and it is unfortunately a familiar disease pretty well all over the globe. If there is a disease in cows, as asserted by Professor Klein, which is a source of so common and widely-spread a disease as human scarlatina, surely it must have been met with and recognised at some time and place, or even, one might expect, in very many places and on many occasions. It is quite certain that some of the most distinguished veterinary surgeons of this country and of the Continent are entirely unacquainted with the disease. In our Bradford experience it will be found that not only have there been cases of scarlet fever among persons using a common milk-supply which was free from infection, but that still large numbers drunk milk from an infected dairy without the slightest evidence of their having suffered any detriment. In no case was there any disease, either internal or external, among the cows, nor could the most minute examination detect any trace of skin disease in any part of the body. And, further inquiry failed to elicit any evidence that they had suffered in health, or exhibited any of the well-marked symptoms of 'the Hendon disease' prior to the investigation. Scarlet fever has been prevalent in Bradford for several years. In 1887 it assumed the proportion of a severe epidemic, which reached its height towards the autumn. During the year there were no fewer than 1308 cases notified," Dr. Hime then proceeds to give cases in support of his statements, and presents a summary of the facts related in tabular form, which shows that in six cases the milk was supplied to eleven public-houses, clubs etc., to 797 families, and to 3985 individuals, and that there were nine cases of diseases at the milk sellers', and fourteen cases among the consumers (thirteen scarlet fever and one typhoid). Dr. Hime then proceeds:—"I think that after a perusal of these cases it would hardly occur to the mind of anyone who was not familiar with the theory of milk infection, that any of the four cases of scarlet fever which occurred among the customers of the milkmen who had scarlet fever in their families were infected by the milk, or by the retailer of it. Indeed, when we find that three of these cases of scarlet fever (No. 4) occurred nearly three months after the milkman's child became ill, and the fourth (No. 5) also after an interval of nearly three months, the supposition loses all probability. But when we find that seven cases of scarlet fever occurred in the families of milk sellers without any case arising among the customers, it becomes all the more difficult to suppose that any of the other four were infected in this way. Finally, when we consider the dates when these four cases occurred among the customers of the infected dairies, it becomes absolutely impossible to believe that they were caused by the milk." After some general observations on the cases related, Dr. Hime concludes as follows:—"It may be urged that at least my facts are but of negative value, and only prove that in Bradford in 1887, the epidemic was not propagated by milk. From the nature of the case no other evidence could be offered. But evidence proving the prisoner did not commit the crime positively establishes his innocence. It seems to me that every condition favourable to the infection of the milk existed in Bradford, and yet it escaped. Could any conditions be devised or demanded more calculated to secure the infection of the milk of No. 6? Compare the circumstances of this case with the ordinary run of reports of epidemics attributed to milk, in which the dairy is condemned merely because there were suspicious symptoms observed in some of the inmates, or in consequence merely

of the fact that the consumers of the milk of that dairy had scarlet fever, while others escaped. If the consumers of the milk of No. 6 had suffered severely from the scarlet fever, would there not be a consensus of opinion declaring that the milk was the cause? If under these very favourable conditions the milk and the cows escaped infection, is it not much more probable that there must be the greatest difficulty in its ever becoming infected? Personally, I neither deny nor affirm the *possibility* of the conveyance of the infection of scarlet fever by milk. I, however, am quite unable to admit the validity of the arguments by which, as a rule, this view is supported, and I am satisfied that it is not applicable to the circumstances of the epidemic of Bradford in 1887. To trace infection to its source is a most difficult matter, but neither truth nor science is served by bridging the distance by a pile of assumptions."

V.—THERAPEUTICAL NOTES FROM FOREIGN JOURNALS

Codeia in Diabetes (*Revista Argentina de Cientias Médicas.*)—A patient, in whom large quantities of sugar persisted in the urine, despite the employment of all known remedies, was given codeia, which has been so highly recommended by Lauder Brunton in such cases, and the effect resulting on its use was apparent immediately. After its use for one week thirst, hunger, and excretion of sugar had ceased. The improvement continued in spite of the discontinuance of the drug, and on the appearance of a relapse after several months the symptoms again entirely disappeared after three days' use of large doses of the codeia. The author adopted this mode of treatment after this result in twelve other cases of diabetes mellitus, with the following result: Cured, 7; improved, 2; not benefited, 1; died, 2. Of the two last-named cases, the one was the most severe case of diabetes he had ever seen, while the other, while really in a fair way of recovery, succumbed to a severe pneumonia which he had contracted. The mode of treatment was, in general, about the following: One grm. of codeia was directed to be divided into twenty pills, of which the patient was given three the first day. If these were well tolerated, without headache or over-much sleep, etc., he was directed to take one more pill the following day, and if the tolerance continued a second pill was added on the third day, so that the patient rapidly advanced to the daily dose of 0·25 grm., the equivalent of five pills. This is about the general average quantity which one employs in the subsequent days, if tolerated by the patient and according to the symptoms of the disease, and above all being regulated by the quantity of the urine and the amount of sugar it contains, and particularly whether this be increased or decreased. The general dose of codeia gives the following results: 1. The sugar disappears completely from the urine; coincidently we have cessation of polyuria, thirst, etc., and in consequence a complete improvement of the patient, who regards himself as radically cured. 2. The sugar in the urine disappears relatively, or absolutely, according to the quantity of the secretion that is eliminated by the patient in the twenty-four hours. The improvement is not so perceptible, even when pretty well marked. 3. The sugar in the urine is not at all lessened; neither is the quantity of the urine reduced. The patient continues the use of the drug. In the first case, if the patient is cured in a few days, the author being in doubt as to the permanency of the cure, continues the treatment for another two or three weeks. Should then no more sugar appear, the number of pills daily ingested is removed by one until one pill is taken per diem. A little later this is reduced to one pill in two three to seven days, so that only one will be taken weekly, and the drug is finally dispensed with in one of the latter intervals. In the second case, when only usual improvement is attained with the general dose, one increases each week by one the daily number of pills. Great care, however, must be paid to the tolerance with which the patient bears the remedy. In rare cases only is one obliged to resort to the daily administration of ten pills (50 cgrm. codeia), for generally the sugar disappears before this, or some symptoms of intolerance appear which will not admit of farther increase of the drug. The latter appearances were only once manifested to the author. If now the patient has completely improved, one continues, as in the first instances, and combines the codeia with other remedies, among which we enumerate Turkish baths, massage, gymnastics, alkaline, mineral waters, and an animal diet. In the third case, if the patient does absolutely not improve, one increases the dose of the codeia as long as a tolerance for it remains. Should, despite this, no benefit accrue, one may entertain the conviction that the remedy will here remain without effect, a conviction that will be the sadder, because there is no other remedy which will then be of benefit, and that might be employed to check or cure the disease. The physiological action of codeia in diabetes mellitus cannot be positively stated. But it is highly probable that it checks any increase in the production of sugar in the human economy through a calming of the glycogenic power, aided by the nervous system. Even if codeia does not cure all diabetes, to whom it is given, it still cures many, and almost every one is improved by it.

Salicylate of Mercury in Syphilis (*Journal de Médicine*).—Silva Aranjo, of Rio Janeiro, is the first who has employed successfully this new mercurial combination, obtained in 1886, by precipitation from an aqueous solution of nitrate of mercury by means of an alcoholic solution of salicylate of potassium. The precipitate appears under the form of an amorphous white powder, void of taste and odour.

The following therapeutic results have been obtained by Szadek:

1. In *Blenorrhagia*, the salicylate of mercury has no influence upon the duration of the morbid process. It exercises an undoubted antiseptic action, but it is inferior to the sublimate solutions:

℞.—Salicylate of mercury ..... 0 gram. 10.
Distilled water .....250 ,,
Bicarbonate of soda..... 1 ,, to 1 gram. 30

For injection.

2. In *Syphilis*. In the primary and secondary specific affections (chancre and condylomata), Szadek has used a mixture of the salicylate of mercury with the subnitrate of bismuth or a pomade (0 gram. 10 to 0 gram. 50 of the salicylate to 30 of adeps præparatus), which is applied directly to the diseased parts. For internal administration, he prescribes:

℞.—Salicylate of mercury ..... 1 gram.
Excipient q. s.

To be divided into sixty pills, and three to six pills to be taken after meals.

In a dozen cases Szadek has also employed the following formula for intramuscular injections:

℞.—Salicylate of mercury ..... 0 gram. 20.
Mucil. of gum arabic ,..... 0 gram. 30.
Distilled water .....60 gram.

The number of injections was raised from six to sixteen, according to the disease, with intervals of two and three days between them. There was none, or at least very little, local reaction (pain, inflammation, etc.) There were no indurations, abscesses, or general mercurial symptoms. Eight to ten injections ordinarily suffice to cause a disappearance of the syphilitic symptoms.

In conclusion, it may be stated from the observations of Szadek, that the salicylate of mercury is as efficacious, at least, as the other mercurial preparations now in use. It possesses the advantage over the latter of not producing any symptoms of local irritations or of general intoxication.

Collodion for the Teeth (*Bollettino Farmac.—Journal de Médicine*).—

℞.—Acetate of morphine .....0 gram. 05 centigr.
Essence of mint..... 4 drops.
Pure carbolic acid.....20 ,,
Collodion ..... q. s. ad. 4 grammes.

To be applied with cotton.

Naphthalin as an Antiseptic (*Journal de Médicine*).—Dr. Nager prefers this to the more dangerous arsenical and mercurial preparations. It may be employed in solid or liquid form. A first solution is made by dissolving over a water-bath forty parts of naphthalin in eighty parts of chloroform, and then adding one hundred parts of benzine, allowing the whole to be heated until it is a perfect solution. To use the naphthalin in the solid form, this first solution is mixed with vaseline, one part in ten; to use it as a fluid, two hundred grammes of the first solution is used to make a mixture, with one kilogramme of perfectly neutral fatty soap. To obtain the latter make a mixture of one kilogramme of fat soap with one litre of boiling water, and add ten to twenty grammes of oleic acid until there is a neutral reaction.

Condurango (*Journal de Médicine*).—Since the use of this drug in the treatment of the late German Emperor, it has received considerable notoriety. According to Wyss, it is par excellence a tonic and stimulant of the gastric mucous membrane. It is prescribed as a decoction or in the form of a wine, both of which are undesirable preparations; hence, the author uses a concentrated fluid extract in doses of ten to twenty drops in half a glass of water an hour before meals.

Paraphenacetin (*Le Progrès Médical*).—In a communication to the Société de Thérapeutique, Dujardin-Beaumetz stated that paraphenacetin does not produce cyanosis and eruptions like antipyrin and acetanilid. It can be given in doses of two or three grammes without danger of intoxication, which is due probably to the fact of its solubility. Antipyrin should be administered especially for migraine of the congestive type, acetanilid for neuritis and the fulminating pains of locomotor ataxia, and paraphenacetin for vague, less localized neuralgic pains. In rheumatism the salicylate of soda is always the best preparation to employ; while the preceding preparations should be remembered as excellent analgesics but as poor antipyretics under these circumstances.

VI.—DISEASES OF THE SKIN.

On Pastes. Ueber Pastern. H. Gruendler (*Monatshefte für praktische Dermatologie*, No. 20, 1888).—The object of the pastes is a double one, viz. :—(1) The absorption of the secretions and excretions of the skin ; (2) the subsequent deposition of a powdery residue, which fixes the medicament on to the skin. Greundler experimented with various powders in order to determine which fulfilled these conditions most satisfactorily. Of the mineral powders he selected Kieselgur (a silicious sand composed largely of foraminiferous remains), talc (French chalk), bolus creta (kaolin), calcaria carbonica and zinc oxide ; of the vegetable powders ; starch, lycopodium and coffee ; and investigated their power of absorbing oil and water. The most absorptive was found to be magnesia carbonica, which takes up 5.5 times it weight of water, 7-5 times its weight of oil. The second best is Kieselgur, which takes up 3.4 times its weight of liquid. Then come kaolin, zinc oxide, and starch. Lycopodium is absolutely useless, since only under quite exceptional circumstances will it absorb any water at all. In spite of its power of imhibition, magnesia carbonica is of no use for pastes, since it produces merely a sticky mass and not a proper paste.

Jackson (G. T.) on Treatment of Sycosis Parasitica (*Med. Analectic*).—If the beard is not shaven, first wash with an antiseptic soap and apply night and morning :

℞	Ung. simp.	20.	parts.
	Resorcin	2.	,,
	Hydrarg. bichlor	0.05	part.

m

If the beard is shaven, a zinc paste, viz. :

℞	Ung. zinc. benzoat	90	parts.
	Terræ siliceæ	10	,,

m

may be substituted for the ung. simp. in the above prescription.

If the disease is very superficial it may be sufficient to touch the part with sublimate or resorcin pencil, or use a spray of :

℞	Resorcin	5.	parts.
	Hydrarg bichlor	0.05	part.
	Aq. Cologniensis,		
	Spiritus āā	50.	parts.
	Ol. ricini	1.	part.

m

When the disease is deeper and nodes have formed, the following plaster mass should be applied and bound down :

℞	Empl. hydrarg	10	parts.
	Ac. carbolici	10	,,
	Sublimate	1	part.

m

Epilation should be practised if pustulation has occurred, but not otherwise.—

Reynolds (H. J.) on a New Method of Treating Vegetable Parasitic Diseases of the Skin (*ibid*). —The method is by the use of electricity, and the mode of application is as follows : The surface should be cleansed of crusts, scales, and sebaceous matter. Saturate the sponge of the positive electrode with some parasiticide lotion, and place it upon the part to be treated. Place the negative electrode saturated with water on some point near by. The electrode should remain on each place several minutes, but the whole sitting should not be over fifteen minutes each day. The best parasiticide is a one per cent. solution of bichloride of mercury. The current used should be the galvanic, and as strong as can be comfortably borne by the patient. Usually a current produced by 5 or 10 cells will suffice.

Corbett (W. T.) Skin Diseases due to Defective Alimentation (*ibid*).—In common with other organs the corium requires a plentiful supply of oxygenated blood, but an additional amount is called for to supply the appendages of the skin, the proper nourishment of which is essential for the healthy condition of the skin as a whole. There is no doubt that defective alimentation is a potent factor in cutaneous pathology. In infancy it appears most frequently in eczema, and later on in urticaria and erythema. Eczema in infants often appears as the result of too early weaning when the child is fed with a little of everything. That skin diseases are the frequent result of irritation of the gastro-intestinal tract is well known, and this is frequently the result of defective alimentation. The last words of England's best known dermatologist, Sir Erasmus Wilson, in an address before the Medical Society of London, were : "Well, our first six patients are adults, say between forty and sixty years of age ; some have eczema, moist and dry, recent and chronic some erythema, some gutta rosea, and some lichen. We inquire into the functions of digestion and assimilation ; in the majority we find symptoms of gastric disorder, nausea, loss of appetite, flatulence, distention, constipation—all more or less confirmed. Our pen flies to the paper ; we are about to prescribe ; and for what ?—for indigestion and malassimilation. But our patient consults us for cutaneous disease, not for his stomach or liver or digestive organs, with which he finds no fault, and which he is not aware of being in a state of disorder ; while we, on the other hand, know the assimilative organs to be the cause of irritation, and if they be restored to their healthy function all the cutaneous symptoms will subside and disappear. Undoubtedly, when the *force majeure* has been dealt with, we shall advise our patient as to some local treatment, an ointment, a powder, or a lotion for the immediate relief of the skin ; but, practically, we treat the cutaneous affection as if it were altogether secondary in importance ; neither need we care to inquire too minutely whether the anatomical lesion is a hyperæmia, a papule, a vesicle, a discharge, or a state of desquamation. And if we be in want of a name to include the cases of this description, we might adopt the word assimilation, and consider this as an *assimilative group* of diseases."

Treatment of Carbuncles.—Prof. Verneuil of Paris recommends the steam carbolized spray frequently used. The strength used is 2 per cent. and applied for twenty minutes three or four times a day. The force of the spray he regulates by the feelings of the patient and is directed directly against the carbuncle or protected by a thin layer of muslin. Benzine when applied early and frequently to carbuncles will often check their development, and will relieve the pain and tenderness, but it should not be used over 2 or 3 minutes at a time. Rhigoline may be used instead of benzene, as its action is more immediate and lasting in its effects, and it can be used as a spray to produce local anæsthesia if an operation is required.

The Spirit of the Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, Tuesday, November 27th (Sir Edward Sieveking, M.D., in the chair). **The Etiology of Puerperal Fever.**—Dr. W. R. SMITH read a paper on this subject. The inquiry in connection with this subject was carried out at the Brown Institute at the request of the committee. Blood was obtained from the heart of a patient who had died of puerperal fever, and cultivations made on gelatine in the ordinary way. In the course of two or three days numerous colonies were present, all clearly of the same origin. This organism was isolated, and its growth carefully noted in various media—as gelatine, milk broth. It was found microscopically to be a micrococcus. Mice inoculated with it died in a few days. Blood taken from the finger of a woman suffering from puerperal fever, and cultivations made upon the surface, and in the depth of gelatine, in the usual way, numerous colonies appeared, and in every respect resembled those of the previous patient. The following conclusions were drawn from these experiments : (1) That this organism occurred in the blood of persons affected with puerperal septicæmia in considerable numbers in the form of streptococci. (2) That, culturally, differences of a marked character distinguished it from other streptococci. (3) That its actions upon rabbits and mice were distinct and definite. (4) That it could be distinctly distinguished from the erysipelas streptococcus of Fehllisen, and from the streptococcus pyogenes of Rosenbach.—Dr. QUAIN remarked that he did not think he could have been mistaken in proposing, at the last meeting of the society, that this very interesting paper should be postponed till there was full time for discussing it. The origin of the paper had been from a very generous offer of the Hon. Rollo Russell of £100 for the special investigation of the disease at the Brown Institute. The result had proved eminently satisfactory.—D. W. O. PRIESTLEY considered the paper and the discussion important. Some ten or twelve years ago, when a considerable discussion took place at the Obstetrical Society, under his presidency, the subject was more confused, and he hoped some further clue might be obtained by the microscope. He had himself suggested the importance of the bacteria in the matter. M. Pasteur has, eight years ago, also made some investigations into the blood of patients with puerperal fever. Though Dr. Smith had pointed out the difference between erysipelas and puerperal fever, yet he should himself feel it a most dangerous thing to go from a case of erysipelas to a lying-in-chamber.—Dr. BARNES thought that in spite of what had been done we were not far advanced in our knowledge of puerperal fever.—Dr. HERMAN felt Dr. Smith's paper deficient in not offering any answer to the questions as to whether all puerperal fever was caused by germs. In his opinion it was all caused from germs without noticing the great improvement there had been since the use of antiseptics. It has

been well known that if scarlet fever had been introduced into a lying-in-ward, scarlet fever and that alone was produced.—Dr. J. H. WALTERS said he had come up from the country for the discussion, and had been disappointed to find it so bacteriological. He agreed with Dr. Herman and as to autogenic puerperal fever he was not a little sceptical. He and his partners had not found it in cases of small supplemental placental large clots in the uterus, etc., where it might have been expected. He regarded insanitary dwelling houses as an important cause.—Drs. A. Money, William Duncan Routh, also took part in the discussion.

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BRITISH GYNÆCOLOGICAL SOCIETY, November 11th (Arthur Edis, M.D., president). **Fibroid Tumours undergoing Calcareous Changes.**—Dr. FANCOURT BARNES exhibited a tumour, partly calcified, he had removed from a young woman, æt. twenty-three. The tumour appeared to be growing from the omentum, and had no connection with the uterus or pelvic organs. It was closely adherent to the intestines. At the bottom of the pelvis a mass of chalky deposit could be seen and felt through a layer of peritoneum.—The PRESIDENT said he had never seen a similar case.—Dr. GRANVILLE BANTOCK exhibited the uterine appendages which had been removed from a married lady suffering from salpingitis, who had one child ten years before. The case was one of pyosalpnix, but the general health was bad, and the urine contained a large amount of albumen. He tried rest and treatment, and she seemed to improve, but the symptoms returned in a few days as bad as ever, necessitating operation. The patient made a good recovery.

Sarcoma of the Breast.—Dr. F. PURCELL exhibited a tumour, 5¾lbs. in weight, which he had removed from a woman, æt. forty-three. It was first noticed four years previously, on the seat of a small abscess. The disease was localised in the breast, the axilla being quite clear, and the arm perfectly free. The patient made a good recovery.—Mr. SPANTON said that sarcoma of the breast was rare, and among the whole of the cases in the North Stafford Infirmary did not number more than one in thirty or forty.

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MEDICAL SOCIETY OF LONDON, November 25th, 1888 (Sir William MacCormac, F.R.C.S., president, in the chair). **Case of Gôitre.**—Dr. GEORGE STOKER showed a man who had come under his care in April, 1888, with a large central well-defined gôitre, the size of a small hen's egg. Iodide of potassium internally, and irritants externally, were given without any effect. In June he had symptoms of chronic hypertrophic rhinitis, which caused much inconvenience. The middle turbinated bodies were much thickened, and this was treated by galvano-cautery. The cauterisation was continued up to a fortnight of the present time, and the gôitre had now completely disappeared.

Cases of Partial removal of Gôitre.—Mr. LENNOX BROWNE showed three young male patients, from two of whom he had removed the isthmus of the thyroid; from the other the isthmus and right lobe weighing 7¾ ounces, and in each instance with the result of giving complete relief to distressing dyspnœa. He was disposed to think that the danger of myxœdema after entire removal has been exaggerated, but seeing that it did not exist, he thought it better to do only a partial operation. He had now removed either the isthmus, or the isthmus and cone, in ten cases, and in all cases with a comparatively good result. The President, Dr. Hadden, Dr. Bernard Pitts, all joined in the discussion.

Palio-Myelitis after Injury.—Mr. BEEVOR showed this case. A boy of twelve fell violently on his elbow last August. His arm was put in splints for a fracture of the humerus. A month later, when the splints were removed, certain muscles were found to be paralysed. There was no anæsthesia.—Dr. SIDNEY PHILLIPS asked whether the apparatus might not have caused the paralysis by pressure.

Case of Erythema Gangrenosum,—Dr. CAMPBELL showed a young married woman who had been the subject of syphilis, and who, some time after, had come to him with erythematous patches on the forehead and chin, and later between the nates and on the vulva, imperfectly vesiculated, and giving place to shallow superficial ulcers. He called the case one of erythema gangrenosum for want of a better designation.—Dr. CROCKER suggested that the ulcers might be self-produced.—Dr. CAMPBELL denied that this was possible, given the situation of the eruptions.

Neuro-Muscular Irritability.—Dr. HADDEN exhibited this patient. The man originally had a condition of spasmodic paraplegia, which was evidently not of spinal origin. The rigidity of the legs disappeared under rest and treatment, but could be brought about afterwards by percussing the muscles. The man was an athlete, so it was possible his condition was due to over-exertion. The condition resembled in some points the disease known as Thompson's Disease.—Dr. MONEY said he had noticed somewhat analogous contractions in cases of chorea after typhoid fever.—Dr. HADDEN was disposed to ascribe the symptoms noticed in this man to irritation produced by fatigue.

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CLINICAL SOCIETY OF LONDON, November 23rd (W. H. Broadbent, M.D., president, in the chair). **Purulent Pericarditis Treated by Aspiration and Drainage.**—Dr. RICHARDSON brought this case before the Society. A boy, aged ten, had symptoms which both Drs. Harris and Woad, of Norwood, interpreted as pyæmic. A large gluteal abscess was followed by signs of pleural effusion and œdema of the face and chest. The position of the heart was almost indiscernible amidst the dulness which involved the left pleural and precardial regions. On the 18th the pleura was aspirated, and thirty-seven ounces of serum drawn off. The operation was repeated on the 23rd, with the removal of thirty-two ounces. The operation had to be repeated on the 25th and 28th, so rapid was the re-accumulation and so great the dulness. On the 30th the futility of dealing with the pleura having become apparent, the pericardium was aspirated by Mr. Rouse, and one ounce of creamy pus withdrawn. The aspirator was repeated with more success on July 8th, and on the 15th. The place selected for puncture was on the right side, close to the edge of the sternum in the fifth inter-space. The heart, before each of these operations, had been drawn to the left by a preceding evacuation of the pleura. Recovery took place, after some temporary drawbacks, by the middle of September. There was no remnant of the pericardial puncture, except a small cicatrix.

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BRISTOL MEDICO-CHIRURGICAL SOCIETY (R. Shingleton Smith, M.D., president, in the chair). **Cancer of Liver in a Cat.**—Dr. HARRISON exhibited the liver of a Civet cat, with large, soft growths in its substance resembling encephaloid cancer.

The Field of Vision.—Dr. RICHARDSON CROSS read a paper on the field of vision, normal and abnormal. He pointed out that the *macula lutea* was the most highly organised part of the retina, and the most elaborately supplied with blood, hence inflammations and hæmorrhages were more liable to occur there than anywhere else.

Naphthol in Typhoid.—Dr. MITCHELL CLARKE read a paper on the value of the above in typhoid fever. He suggested that the so-called bacillus typhosus was the cause of disease, so that something should be introduced into the alimentary canal to prevent the growth. Naphthol fulfilled these conditions, and appeared to have shortened the duration of the fever.

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SHEFFIELD MEDICO-CHIRURGICAL SOCIETY, Thursday, November 28th (J. W. Martin, M.D., president, in the chair). **Graves' Disease.**—Dr. PORTER showed the patients—one a young married woman, aged twenty-one, suffering from exophthalmic goître. The goître first made its appearance eight years ago. The symptoms were nervousness, palpitation, throbbing, anæmic bruits over pulmonary artery and at the apex, etc. She had not menstruated for three months.

Aortic Stenosis.—The second case was one of aortic stenosis in a man, aged fifty-five. There was history of an illness some years previously, but no rheumatic history. The pulse was small, the general symptoms were syncopic attacks and vertigo, the patient sometimes falling, but never fainting quite away.

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GLASGOW SOUTHERN MEDICAL SOCIETY, Thursday, December 6th (T. F. Gilmour, L.R.C.P. Ed., in the chair). **Historical Sketch of the Society, by John Dougall, M.D.**—The CHAIRMAN announced that copies of the History of the Society, which Dr. Dougall had been commissioned to prepare, were now ready for distribution among the members. The little book contains a photograph of the late Dr. James Stewart, the first president, and a copy of the quaint, original seal of the Society. The sketch is mainly compiled from the minute books, which record the chief items of the transactions of the Society since its origin in the year 1844. Much interesting information is given regarding the society's origin, infancy, growth, and work, affording many glimpses of the state of medicine as practised in Glasgow nearly half-a-century ago. The extracts from the record by the original secretary, Dr. Leech, who usually signed himself "Hirudo Officinalis," show that he was a man of wit and humour, and did not confine himself to strictly business minutes. Dr. Dougall gives notices of the more prominent past members, and makes reference to the principal papers read on medical subjects, and also to the part which the Society has on various occasions played in relation to important questions affecting the profession and the

public. One amusing paragraph in the booklet consists of a description in verse, by one of the members of the society, and is entitled "A Medical Holiday." A list of the present office-bearers and members is appended, the total number on the roll being 156.

Medical Characters in Fiction.—The continuation of the President's paper on "William Smellie" having been unavoidably postponed, the Secretary, Dr. James Erskine, M.A., read a paper on "Medical Characters in Fiction" as an introduction to a conversation on the subject. As representing the extent to which the treatment by leeching was carried in olden times, Dr. Sangrado in "Gil Blas" was selected. The medicals in Scott's works were passed under review, especially Dr. Quackleben in "St. Ronan's Well," and reference was made to the two doctors in Thackeray's writings—viz., the admirable and kind-hearted Dr. Goodenough, and the pretentious fraud Dr. Firmin. Mr. Lydgate, in George Eliot's "Middlemarch," was noted as a man whose noble and unselfish nature was repressed and spoiled by a wife, who cared only for material prosperity and luxury. R. L. Stevenson's "Strange Case of Dr. Jekyll and Mr. Hyde" was graphically represented, and the moral of the story considered. The medical characters of Shakespeare's "Macbeth," "Cymbeline," "King Lear," etc., received special comment. Sterne's "Tristram Shandy," and Smollett's "Roderick Random" were referred to, as also Trollope's "Doctor Thorne." Dr. Day in Miss Yonge's "Daisy Chain," Mr. Woodcourt, poor Jo's friend, in Dicken's "Bleak House," and the medical personages in Charles Reade's "Hard Cash," Wilkie Collins' "Heart and Science," Mrs. Henry Wood's "Oswald Cray," James Payn's "Thicker than Water," Hawthorne's "Mosses from an old Manse," and Cable's "Dr. Sevier." Rebecca, in Scott's "Ivanhoe" was regarded as the prototype of the modern medical woman, and "Dr. Breen's Practice," by W. D. Howell's, was taken as an illustration of the lady practitioner of the present day. The nurses in fiction were discussed. Dicken's Mrs. Gamp and Mrs. Harris, in "Martin Chuzzlewit," were looked upon as exaggerated caricatures of the evils of nursing as conducted in bygone times. The Little Sister in Thackerary's "Philip" was considered as a splendid type of the modern nurse, and the two nurses in "An Open Verdict," by Miss Braddon, and Sabina Zambra in William Black's novel of that name, were mentioned as examples of the kind of women introduced into the modern novels for the purpose of carrying out the love-plot of the story.

Surgical Aids and Appliances.

115.—A BENCH FOR OPERATING ON THE EYES OF CHILDREN.

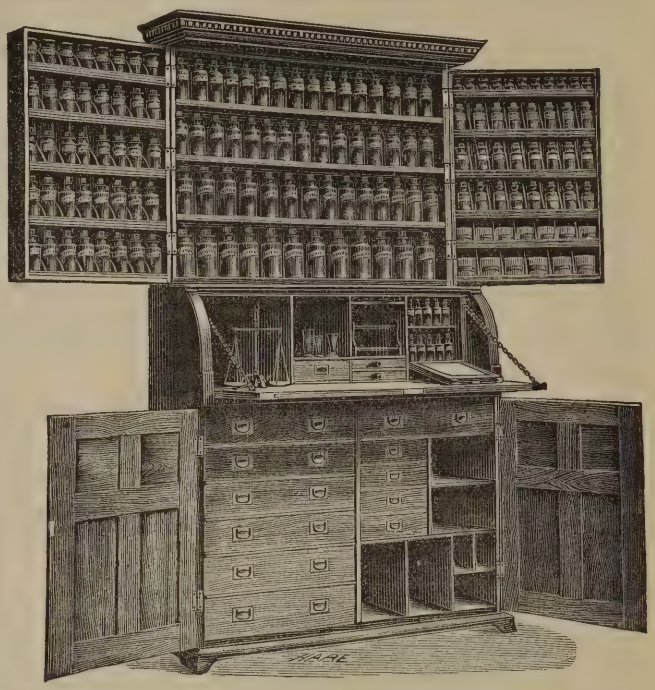
By TEMPEST ANDERSON, M.D.,

OPHTHALMIC SURGEON YORK COUNTY HOSPITAL.

THIS contrivance, which was exhibited at the recent meeting of the Yorkshire Branch of the British Medical Association, consists of a bench of the ordinary height of a chair, and with a top 4ft. 6in. long by 1ft. wide. On either side near the middle of the bench, part of the seat is cut away and the framing carried under the middle so as to allow the operator's knees to come nearly together. He sits astride of the bench, and the child is laid on its back on the other end so that its head rests between his knees on a towel laid over them. The mother or nurse controls the child's arms. The movements of the legs are immaterial, in which respect this bench has a great advantage over the ordinary method of laying the child over the nurse's knees. A strong child of two or three years old can by a sudden kick shake a nurse, and give a jerk to its head held between the kness, while on this bench it is perfectly steady, and many ordinary cases such as tinea tarsi, photophobia, or small abscesses of the eyelids or face, which would otherwise require chloroform for their proper examination or treatment, can be effectively dealt with. When not in use the bench is a useful piece of furniture in the surgery or waiting room. Mr. Baxter, joiner, 68a, Lowther-street, York, has made several such for the author and his friends.

116.—A PRIZE DISPENSING CABINET.

IN response to the offer in our columns of a prize of £5 5s. 0d., several designs were sent in, from which one was selected, and after some detailed alteration, adopted as Richardson's Prize Cabinet. The chief conditions of the prize were that the cabinet should be useful, compact, and elegant in appearance, and as may be seen by referring to the accompaning drawing, all these conditions have been fulfilled. The cabinet as manufactured forms a handsome piece of furniture, and is fit for any consulting room. It is made of the best polished pitch-pine, and is divided into three compartments. The base, enclosed by folding doors, contains seven large and four small drawers, and seven divisions for dispensing bottles, mortars, etc. The middle division (the front of which lets down and forms a most convenient dispensing counter), has space for 12-inch pedestal scales, graduated measures, ointment slab, test tubes, compressed tablets, and other small bottles, and one drawer for instruments,



etc., three drawers for labels, and a hinged sloping desk. The top portion of cabinet is fitted with shelves made to carry twelve 16oz., fourteen 12oz., and thirty 8oz. bottles. The inside of the folding doors is also divided into compartments for sixteen 8oz., forty 4oz. bottles, eighteen pill bottles, six 8oz. ointment pots, and seven 4oz. ditto. The size of this cabinet is 7 feet 3 inches high, and 4 feet 2 inches wide at the base. The front is highly finished, and is divided into 17 moulded panels, and has a 3½ inch moulded and dentilled cornice. The cabinet may be inspected at 6, Great Russell-street, Bloomsbury, and may be obtained furnished or unfurnished on terms which may be ascertained from John Richardson & Co., 10, Friar-lane, Leicester.

Medical Miscellanea.

THE subject of our next illustration will be Lionel Beale, M.D., F.R.S.

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There will be a new edition of the "United States Pharmacopœia" in 1890.

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The Italian Society of Hygiene will hold its next Congress at Padua in 1890.

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The French Minister has presented a sum of 8,000 francs (£320) to the Academy of Medicine, for the encouragement of animal vaccination.

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Surgeon-Major G. Waters, L.R.C.S., L.R.C.P., has been appointed first physician, and Surgeon R. Manser, M.R.C.S., L.S.A., second physician to the Jamsetjie Jejeeboy Hospital.

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Dr. J. B. Hamilton, Surgeon-General of the Marine Hospital Service, and late Secretary-General of the Ninth International Medical Congress, has been chosen to fill the place of Dr. Nathan Davis, who has resigned the editorship of the *Journal of the American Medical Association.*

The foundation stone of Hereford new Victoria Ear and Eye Hospital, which is to be built in commemoration of the Queen's Jubilee, at a cost of £2,500, was laid on December 6th by the Countess of Chesterfield.

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Dr. W. H. Torbock, of Polruan, Cornwall, has received for the second time the Government grant for successful vaccination in the fourth and fifth districts of the Liskeard Union.

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The public appeal on behalf of Guy's Hospital has resulted in a generous response. Already £97,000 has been subscribed; some beds have been re-opened, and there is every prospect that the governors will find themselves able to open the 600 beds which the hospital contains.

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At the congress of the advocates of cremation, recently held in Vienna, it was stated that there are throughout the world fifty crematories, half of which are in the United States, twenty in Italy, and one each in Germany (Gotha), England, France, and Switzerland.

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A most successful meeting of those interested in the Royal Albert Asylum was held at Halifax on December 18th, under the presidency of the Marquis of Ripon, and the objects of this charity were ably advocated by several speakers.

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A lad named Arthur Micklefield, aged seven years, was bitten by a mad dog in London. He was being taken to Paris in order to be placed under the treatment of M. Pasteur, when he died in the train, between Dieppe and Paris.

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The cause of ill temper has been discovered by a dress reform lecturer, who does not consider it an evidence of bad disposition. She says it is caused by bodily discomfort, improper dressing, etc., and that wives would all be sweet-tempered if they took plenty of exercise, and ate their food and digested it well.

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At the anniversary meeting of the Royal Society, on St. Andrew's Day, the Copley Medal was presented to Professor Huxley, F.R.S., F.R.C.S., for his investigations on the morphology and histology of vertebrate and invertebrate animals. The Royal Medal was given to Baron von Müller for his investigations on the flora of Australia.

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We hear that another medical novel is in the press, entitled, "Queen Anne's Hospital." It is by Dr. Schofield, and is written on teetotal principles, and is a kind of answer to another novel which brought sensational charges against hospital surgeons, and their method of treating ward patients.

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We regret to have to announce the death of Denis Charles O'Connor, LL.D. Camb., A.B., M.D. Dublin, one of the most skilful of the medical practitioners of Cork. Dr. O'Connor was appointed, on the opening of the Queen's College, Cork, professor of the practice of medicine, and during the meeting of the British Medical Association in that city, in 1879, was chosen president of the association. He will be very much regretted by all who knew him.

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We regret to have to record the death of Dr. Henry Sands, one of the leading surgeons of New York. Dr. Sands was a member of the New York Academy of Medicine, the County Medical Society, the Physicians' Mutual Aid Association, the Society for the Relief of Widows and Orphans of Medical Men, and of the Medical and Surgical Society. He was also connected with the New York Philarmonic Society.

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A very good kind of doctor is described in an able novel, entitled, "A Bitter Repentance," by Lady Virginia Sandars. The doctor (by name Tremaine) is finely drawn, and is a very noble specimen, albeit not in the flesh. The following paragraph is worth quoting: "Sir Godfrey Tremaine, I congratulate you," exclaimed Conway. "Brewers and gin distillers having realised their millions, and aided in destroying the moral and physical well-being of their fellow creatures, receive peerages in recognition of wealth so meritoriously gained. Physicians who are called upon to prolong life, often at the expense of their own, may not hope for higher distinction than a baronetcy."

The well-known London surgeon, Mr. Davy, F.R.C.S., has entered on a new field. He has written one play entitled Lesbia, which has been produced at the Gaiety, and now we are informed he has another in hand for Mrs. Langtry.

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A new Surgical Aid Society has been formed at Newcastle-on-Tyne, with the object of supplying medical appliances for the deserving poor. A resolution was moved by Dr. Philipson; a committee elected, which was to consist of the senior physicians and surgeons of the town. There can be no better system, and the institution will be thoroughly unsectarian.

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Apropos of the application of Sir W. Roscoe for a grant in aid of the Pasteur Institute, owing to the fact that about 180 English people had applied for the cure, the following old story is worth reviving:—

First boy: "Didn't Joe Stevens have a slice of luck just now."

Second boy: "Gor! what's up?"

First boy: "He's been bit by a dawg, and now's over in Parry, 'aving a 'owling lark."

Second boy: "Just his blessed luck."

What about *the thousands* who have been bitten in England by dogs, and who have applied to our charities. The Government should first subsidise the London hospitals.

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We have taken the following from *Keene's Bath Journal*, December 15th, 1888:—In an unmistakable manner Dr. Freeman has sounded the key-note of his mayoralty; the challenge has gone out, and henceforth the baths and their advancement will be his particular care. This is no more than was anticipated when he first consented to accept the dignity of chief magistrate of the city, but it could not then be foreseen that at so early a stage he would enter actively upon his campaign. Viewed in this light, the banquet given by the mayor on Monday was no ordinary affair. Dr. Freeman turned the opportunity to the direct good of the city. The worth of the gathering consisted in the assemblage of so many medical men, not only from the city, but from various parts of the country, and from the metropolis. The prosperity of Bath is in the hands of the profession. Fortune may do much; nature also has given great beauty to the city's surroundings; yet neither the patronage of fashion nor the panegyrics of ardent tourists would be so beneficial or lasting as the persistent upholding of the virtues of the waters of Bath by physicians at home and abroad. The chief speaker of the evening was Dr. Lennox Browne, once a fellow student with the mayor. His words had in them the true ring of conviction when he asserted that no other place "can offer the same aggregate of advantages to the invalid as Bath." Commenting on the rise in the prosperity of the baths, which he dates from the meeting of the British Medical Association in Bath ten years ago, under the presidency of the late Dr. Falconer, Dr. Browne finds that their income has increased from 300 to 400 per cent., and he hopes to see a still more substantial advance in the future. If the spirit which appears to actuate Dr. Browne diffuses itself amongst his professional brethren, there will be no fear of the result. The mayor leads the van in the new crusade with energy and determination, nor will he lack influential followers. Public attention must be rivetted to the virtues of the thermal waters.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16th of the month.

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

THE EARLY SYMPTOMS OF CHRONIC PLUMBISM.

A PERSONAL EXPERIENCE.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Having recently suffered from a very vague attack of chronic lead-poisoning, which for long baffled the diagnostic powers of eminent members of our profession, my attention has been particularly drawn to the subject, and the conclusion is forced upon me that such cases are by no means rare. In 1886-7 several persons in Sheffield were attacked by vague symptoms, which for a long time could not be accounted for, but eventually they proved to be cases of chronic lead poisoning from drinking water. Dr. Thomas described some of these cases in the *British Medical Journal*, and in his subsequent remarks he makes this important statement: "I believe in the past that I have seen scores of cases of plumbism, which I have never recognised, simply because I was not on the look out for them, and that probably is the experience of hundreds of other medical men." I might quote many other authorities to prove the correctness of my conviction that many unrecognised cases occur, where the usual pronounced symptoms are absent, and I think that these cases ought to be made out early, for though the initial symptoms are extremely vague and indistinct, with great care in their investigation they may usually be distinguished.

These symptoms have been frequently described more or less fully in various text-books and medical journals, but my personal painful experience, and my observation of these symptoms in various members of my household who have unconsciously taken drinking water impregnated with lead for a considerable period, may be of some interest to your readers, and may attract renewed attention to a very suitable and, I believe, very general cause of chronic ill-health. The effects of chronic lead poisoning are at first so obscure, so slow, and so insidious, that they are readily mistaken for other debilitating diseases.

Case 1.—In March, 1884, I removed from a neighbouring house, which was not supplied with a hot water service, and which had no leaden pipes for the conveyance of water, to my present residence, which is fully fitted throughout with a hot water serviee, supplying the kitchens and bath-room, and which contains both leaden pipes and a leaden cistern. The cold water supply is distinct; it comes direct from the main in iron pipes, and has no contact with lead. Previous to my change of residence my health was uniformly good, and I suffered from no gastric or abdominal disturbances; but afterwards, a gradual and almost imperceptible change took place. The following symptoms of chronic ill-health appeared, more or less in the order stated below:

1. Vague symptoms of *dyspepsia*—slight headache, absence of mind, forgetfulness, slight mental depression, flatulence, abdominal distension and uneasiness.

2. Chronic and persistent *constipation*, each year becoming less amenable to treatment. In 1886 severe straining induced prolapsus ani, and enemata became habitually necessary. Hæmorrhage from the bowels occurred occasionally. Careful examination of the abdomen externally, and the rectum digitally, at this period detected no diseased condition.

3. *Vomiting* occurred frequently and suddenly, without previous warning. Complete relief followed evacuation of the stomach.

4. The tongue became *constantly furred*, particularly in the morning, and a sweetish astringent taste occurred.

5. *Headache* became more marked, accompanied by melancholia, depression of spirits, and an indefinable sense of impending evil.

6. A tendency to sleep during the day, especially after the midday meal, accompanied by muscular debility, a feeling of languor, and disinclination for exertion, also a sense of chilliness, and a shrinking from exposure to cold.

7. *Vertigo* occurred suddenly and frequently, and passed off after a few seconds.

8. A *marked cachexia* gradually developed, and became very apparent towards the end of 1887, shown by gradually increasing emaciation, hollowness of the cheeks, sharpness of definition of the features, a sallow skin, muddy conjunctiva, fetid breath disagreeable to friends, but not perceived by myself. In January, 1888, I suffered from a severe chill, with nasal catarrh and sore throat. Two days after this occurred, sickness and diarrhœa set in, with severe tenesmus, followed in twenty-four hours by intense tormina, occurring in paroxysms in the region of the transverse colon and sigmoid flexure. This was probably

9. *Lead colic*, and it terminated in acute enteritis of the sigmoid flexure, which kept me an invalid for many weeks.

The above symptoms gradually disappeared, after the discovery of the cause of the chronic ill-health and suitable treatment, directed (1) to the relief of the acute symptoms, (2) to the elimination of the poison, and (3) to the restoration of the general health; but a constant aching, and feeling of stiffness and soreness remained in the abdomen, though the constipation is no longer present.

Case 2.—Maiden lady, æt. fifty-nine, stout, previously healthy, gradually fell with ill-health, and showed a marked cachexia, which was at first attributed to derangement of the liver. She complained of increasing inability to walk, had a tendency to stumble, giddiness, increasing insomnia, palpitation, cardiac uneasiness and oppression. The pulse was slow (sixty), hard, intermittent, no cardiac murmur. Abdominal uneasiness and gripings were present, constipation, and slight albuminuria.

Case 3.—Married lady, æt. thirty-four, previously healthy, suffered irregularly for three years from morning sickness, immediately after breakfast, and occasionally during the day. She felt well immediately after the rejection of the food. Severe syncope, without unconsciousness, occurred almost daily, and invariably about two hours after breakfast. The pulse became uniformly slow and weak, rarely exceeding fifty. The breath was frequently fetid, and there was abdominal uneasiness, but no albuminuria nor constipation. Anæmia was present.

Case 4.—A boy born in the house in 1884 suffered from habitual constipation after he was weaned, except when he was taken from home, when the bowels became regular. He had sudden attacks of syncope (without unconsciousness), with deadly pallor and fetid breath, generally terminating in sickness, and cramp in his legs often occurred in sleep.

Case 5.—Single lady, æt. thirty-four, suffered from chronic constipation, constant headaches, and amenorrhœa; finally, from melancholia of a severe type, amounting to slight mental aberration.

Case 6.—The cook, a young woman æt. twenty-eight, after chronic dyspepsia, constipation, and a slightly-marked cachectic appearance, suddenly was attacked by colic.

In each of the above cases the sufferers recovered under proper treatment, after the discovery of the lead poisoning, with the exception of case No. 5, where the improvement has been slow, and is not yet complete. The servants had been frequently told to use for drinking purposes the cold water, which was supplied direct from the main in iron pipes; but upon careful and searching investigation, it was ascertained that for the sake of convenience, and to save time, they had habitually used for breakfast, and for the child's food, the hot water which had remained in the lead pipes all night. This water was submitted to Professor Attfield for analysis, and showed the following result:

June 25th, 1888.	Hot water service contained $\frac{1}{100}$ grain, or 0.01 lead per imperial gallon.
June 25th, 1888.	Cold water service, no trace of lead.
July 3rd, 1888.	Hot water service contained between $\frac{1}{60}$ and $\frac{1}{100}$ grain, or 0.02 to 0.61 grain lead per gallon.
July 3rd, 1888.	Cold water, no trace of lead.

The water supply of this town is collected from hills of the silurian series. The gathering-ground is peaty, and the water, after heavy rains, is frequently, before filtration, of a brownish colour, throwing down a peaty deposit. It runs in iron pipes for a distance of seven miles (from the reservoir to the town). The following is the analysis of this water, made by the medical officer of health (results expressed in grains per imperial gallon):—

Total solid matters	7.0
Chlorine (as chlorides)	0.75
Hardness total	5.5
Free ammonia	0.02
Oxygen required to oxidise organic matter actually present	0.18
Nitrates, nitrites, and metallic impurities	0.0

And he remarks: "The water is quite free from all evidence of hurtful organic or other contamination; is remarkably soft, and well fitted for every domestic purpose." But it will readily be seen that it is well adapted for dissolving lead, on account of its softness and freedom from

the salts which, by precipitation upon leaden pipes, prevent further action upon the water. This solvent action may derive further aid if the water at any time contains a free acid, due to the oxidation of iron pyrites or to the decomposition of vegetable peat."

The amount of lead found by Professor Attfield in my hot-water service is certainly small, but probably the actual amount may vary considerably at different times ; a much stronger solution may be sometimes present. A very small quantity of lead in drinking water renders it injurious to health, and if only $\frac{1}{10}$ grain per gallon, or even one part per million, be found, it is stated on good authority that such water ought to be avoided for drinking purposes. In Huddersfield chronic plumbism has resulted from water containing from 0.04 to 0.84 grains per gallon, and in Leeds from a solution of $\frac{1}{20}$ grains per gallon. In the remarkable case of poisoning in the household of Louis Philippe, in Claremont, plumbism was produced in seven months by drinking water which, upon analysis, was found to contain not more than 0.0015, or even 0.0002 per cent. of lead.

When this poison is absorbed in very small amount decided symptoms may not follow for an indefinite period, on account of the power of the system to eliminate it by the urine, skin, mucous membrane, and the epithelium ; but if this action be checked by a sudden chill, or an ordinary cold, serious and unmistakable symptoms may suddenly appear.

It is not my intention to give an exhaustive list of the numerous and various sources of lead-poisoning, or to describe the symptoms of advanced cases rendered easily recognisable by the presence of colic, marked blue line on the gums, wrist drop, etc., or to enter upon the question of treatment, but briefly to attempt to enumerate and describe the earliest recognisable symptoms which, though vague, are so distinct as to lead to an early diagnosis if carefully studied. Impaired nutrition lies at the root of cases of incipient chronic plumbism.

Constipation is one of the earliest and most constant symptoms. Sometimes irregularity of the bowels first occurs, so that constipation and diarrhœa alternate. But as the case progresses, the costiveness becomes more constant and more obstinate. When ordinary purgatives fail to act lead-poisoning may often be suspected.

Abdominal uneasiness is an early symptom, and a very characteristic one. At first it occurs only after food, but gradually becomes more constant. A feeling of stiffness, aching, gnawing, or contraction, is an early symptom, and is succeeded at a rather later stage by gripings, a hot burning sensation, and occasional spasmodic attacks.

Pain in the back, of a grinding or dull aching kind, occurs.

Dyspepsia is always present a little later, shown by furred tongue, headache, flatulence, and by a peculiar kind of vomiting, which occurs suddenly, without any previous warning.

The saturnine cachexia becomes apparent, and is characterised by increasing emaciation, the face looking thin, the features drawn and sharply defined, the countenance sallow or yellowish (the icterus saturninus of Tanqueral), the breath is fetid, the conjunctiva muddy. Muscular weakness sets in, and a well-marked anæmia. Though this condition is apparent to his friends, the patient may himself feel well.

Melancholia, or depression of mind, with loss of memory and disinclination for exertion, appears, with a tendency to sleep during the day. Slight mental aberration may occur in some cases, leading to lunacy. Four cases are reported by Dr. Goodhart in the *British Medical Journal* for 1882.

Vertigo may occur in one case, *syncope* in another. These symptoms should give rise to suspicion at once in the absence of organic disease, especially if the pulse be slow (forty to sixty) and hard, or cardiac uneasiness or palpitation be present.

Slow pulse is frequent, apart from syncope.

Albuminuria also occurs, and *insomnia* is often attributed by the patient to cardiac discomfort.

Suppression of catamenia, and sometimes *abortion*, occur in women.

The *blue line* upon the gums is a valuable and conclusive indication of lead poisoning, if present, but it is generally absent in those who habitually brush the teeth.

Many months, or a year or two, may be required to produce the above symptoms in a decided form, the period varying with the amount of lead in solution and the susceptibility of the patient ; but when a number of the above symptoms occur, in the absence of all specific disease, the medical attendant ought to search carefully for lead, and not rest satisfied with an incomplete investigation.

Water contamination from leaden pipes or cisterns is by far the most usual source of chronic plumbism in its most insidious form. In the trades in which lead poisoning occurs the symptoms are usually so decided that the disease is readily diagnosed. Obscure cases have been traced to various sources of lead action—viz., to flour, where the millstones have been repaired with lead ; to the use of aërated waters from syphons which have been found to contain 0.0408 grains of lead per gallon ; to beer drawn from lead pipes, or to beer or wine from bottles containing shot ; to snuff packed in lead foil ; to badly-glazed crockery ; to tea containing oxide of lead (from its being packed in lead in China), etc., etc. It is well known that many of our large towns are supplied with a water capable of taking up lead, when allowed to lodge in the pipes for twenty-four hours in an appreciable quantity—for instance, Bradford, Halifax, Leeds, Manchester, and Sheffield—therefore chronic plumbism may have a wide influence in producing a chronic form of invalidism difficult to alleviate till its cause is understood.

I am, yours truly, "M.D. EDIN."

"ON THE EXTERNAL APPLICATION OF NITRATE OF SILVER IN ERYSIPELAS."

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Through the means of your highly-appreciated publication, please allow me to draw the attention of your numerous readers to the above-mentioned remedy in the treatment of erysipelas. Not that there is any originality on the part of your humble servant, for he has gratefully to acknowledge his obligations to his former colleague, Dr. James Allan, of Leeds, who was the first person to direct his attention to the silver solution as an external application in the treatment of this disease. At the same time (if my memory holds goods) I think Dr. Allan himself saw it highly recommended in some one or other of the medical journals. The same gentleman has recently read a paper on the subject before the Leeds Branch of the British Medical Association, but his remarks were not fully reported, neither did their seem to be much discussion upon the subject when brought before the members.

Having lately had an unusual number of these sort of cases under treatment, I have been more than ever struck with the remarkable usefulness following the external application of the silver solution ; also during the last seven years I have applied it in almost every case, and with the most gratifying success. I therefore desire to supplement Dr. Allan's experience with that of my own. It cannot be used very well in some cases. It is not advisable to employ it freely where there are any blisters, or where there may be any crushing. If possible it ought to be employed before that stage. The best and proper strength will be found to be gr. 20 arg. nit. to each ʒi. of sp. ether nit. If called to a case I generally run a little cotton wool gently over the surface of the skin, so as to remove any secretions that may be lying thereon. After pouring a little of the remedy into a wineglass, and having charged the camel-hair brush with some of it, I then give the affected parts a good coating by running the brush once or twice over the skin. In a short time the parts so painted will get brown and eventually quite dark. A fine uniform covering will be formed, and will be found much better than cotton wool, etc., as a protection from the air.

With steel internally and this application externally, it is often marvellous how quickly the patient will get better. I have such faith in its usefulness from past experience that I am generally enabled to confidently assure the sufferer that they will very soon be all right. There is also a grateful cooling feeling at the time of painting, and the burning sensation present in erysipelas (if nothing be done) is generally removed. I should very much like to hear the opinion of any of your readers who may have tried this treatment. Apologising for troubling you.—Yours truly, T. PICKTHORN THOMAS, M.B.

Half-Way House, Shrewsbury,
November 29th, 1888.

☞ We would direct attention to Higginbottom's treatise "On the use of Nitrate of Silver in the Cure of Inflammations, etc.," in Leeds Medical Library.—W, 47.

MEDICAL REFORM.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—It is perhaps useless to offer any criticism of the paper on the above subject, appearing in your Journal of December 1. Few fair-minded persons will read it without noting the ruling sentiment of it all, which pervades most of the effusions of this, and similar expositions of like "reformers"—viz., an intolerant jealousy of Scotch and Irish medical credentials to practise in England. But it is apparent that the writer of the article referred to is ignorant of certain facts in the case he takes up, and with the view of rectifying this, you will perhaps

permit me space to shew him that "in the legal profession there are several grades of superiority"—granted; but is it not a fact that at the present day these "several grades" are found to be a galling yoke of bondage instead of a benefit by the said profession. One thing is certain, that both in England and Scotland, organisations are on foot for the abolition of the system which is held by "reformers" in the legal profession to be irksome, and amid the general efficiency required throughout that profession, uncalled for. In scanning reports of meetings on the subject by legal men, we find the unicity and uniformity of our profession pointed by legal luminaries as a model of what the legal profession should be. The fact of English solicitors, etc., being limited to England, and Scotch to Scotland, is because the law is different; legal processes, terms, etc., are altogether different. It is clear this instance is quite out of the question in considering the question of medical practice. As regards the clergy, I need only say there is another great body where no such system prevails, and its traditions, and its men, will compare favourably with any Sacerdotal body in existence, to wit, the Presbyterian Church. In the medical profession we have a model of what all professions ought to be—viz., varying grades of distinction which might be called "academical." But we have a common platform on which every member meets on terms of the strictest equality—viz., as registered medical practitioners. Mr. Kent alludes to men being fully fledged, "no matter how poor his degree or diploma granted by one of the numerous licensing bodies" "being looked on by people at large as qualified." And I beg to ask—Why not? A time has been, it is true, when English qualifications were only limited, *i.e.*, a physician was strictly such, a surgeon also, and an apothecary simply an apothecary. But let Mr. Kent take note that that sort of affairs did not apply to every part of the United Kingdom. In Scotland it was unknown. Every medical qualification was and is complete as regards examination, and in certain bodies, as regards the indubitable legal rights, to act as a fully qualified medical man. To make Scotch and Irish qualifications of no effect in England is to return back to the old territorial system, which has had its day; and it will, if returned, be found to cut more ways than one. It is quite well known that the medical acts of 1858 and 1886 are founded on the understanding of the full force of each qualification being fully recognised in Her Majesty's dominions, and the Apothecaries Act of 1815 is also subject to this proviso now. All this hitherto has been held to be reform in the true sense. According to Mr. Kent we are to be again reformed by re-adopting the rules of byegone centuries. I decline to follow him in his comparison of the Scotch, English and Irish diplomas and degrees. I am perfectly prepared to do so if he wishes a controversy on the subject, but my object in this brief paper is merely to confute, as briefly as may be, what must be pronounced a series of arguments founded on false premises. At the present time in the medical profession, nothwithstanding the feeble cries of reformers, we have a bond of sympathy and union, which is, I might almost say, envied by the other two great professions, and by the clerical more than any. I ask the question would this clipping up of the medical profession into grades and classes, this dissolution of the bond of equality lead to anything else than perpetual strife? I venture to say that the corporate unity and equality of our profession is a thing we ought to value and perpetuate.—Yours truly, JAMES GILROY, M.D.

Waterheath, Dumfrieshire.

NEW INFLATABLE DILATOR.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

DEAR SIR,—In THE PROVINCIAL MEDICAL JOURNAL of December 1st, appears a description of an inflatable dilator to which is attached the name of Dr. John Ward Cousins.

This instrument cannot be styled "new," as I have had it in use for many years, and in my paper on "The Treatment of Hæmorrhage after Rectal Operations," which was published in the *British Medical Journal* of December 13th, 1888, I gave an illustration of it.

I am, yours faithfully, SAMUEL BENTON.

Bibliographical Record.

BOOKS, PAMPHLETS, ETC., RECEIVED.

Report on Hydrophobia. pp. 8. By Charles W. Dulles, M D. Reprint from Transactions of the Medical Society of the State of Pennsylvania.

On Certain Disregarded Effects of Development, chiefly in relation to the Curves of the Spine. pp. 20. By T. W. Nunn, F.R.G.S. London: John Bumpus, 350, Oxford-street.

L'Enseignement et l'Organisation de L'Art Dentaire aux Etats-Unis. Rapport addressé a Monsieur le Ministre de L'Instruction Publique. Par Dr. Kuhn. pp. 300. Paris: Octave Doin, 8, Place de' L'Odean.

The Medical Profession in the Three Kingdoms, in 1887. pp. 385. Carmichael Prize Essay of £100. By Thomas Laffan, M.C.P.I. Dublin: Fannin and Co.

Hunterian Lectures on Tension, as met with in Surgical Practice, etc. By Thomas Bryant, F.R.C.S. London: J. and A. Churchill, Burlington-street.

The Pathology and Treatment of Displacements of the Uterus. By Dr. B. S. Schultze. Translated from the German by Jameson J. Macan, M.A., and edited by Arthur V. Macan, M.B., etc. (*illustrated*). London: H. K. Lewis, 136, Gower-street.

Clinical Lectures on Diseases of the Urinary Organs. By Sir Henry Thompson. Eighth edition. London: J. and A. Churchill, 11, New Burlington-street, 1888.

Leçons de Gynécologie Operatoire. By Drs. Vulliet et Lutaud. Paris: J. B. Baillière et Fils, 19, Rue Hautefeuille.

Sub-glottic Laryngeal Tumour. Reprint, pp. 5. By Fletcher Ingalls, M.D.

Note Book for the Examination of Eye Diseases. Arranged by A. Maitland Ramsay, M.B., C.M. Glasgow: H. Stenhouse.

☞ This Note Book will be found extremely useful by oculists and eye students. It is well arranged with excellent diagrams.

The Perfect Clinical Charts. Case, Sheets, Diagrams. London: Danielsson & Co., 52, Beaumont-street.

☞ The Charts and Diagrams published by the above firm will be appreciated by all who desire to secure accuracy and to save time. The diagrams can be pasted into case book, and lesions thus be noted.

Minutes of the General Medical Council and of the Executive Committee, from November 26th to December 23rd, 1888. London: Spottiswood and Co.

EXCHANGES, 1889.

AMERICAN:—
1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

BRITISH:—
15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

DUTCH:—
35. Nederlansch Tijdschrift voor Geneeskunde.

FRENCH:—
36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette de Gynecologie.
41. Gazette Hebdomadaire des Sciences Medicales.
42. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
43. Annales de Gynæcologie et d'Obstetrique.

GERMAN:—
44. Centralblatt für Kinderheilkunde.
45. Centralblatt für Gynecologie.
46. Centralblatt für Chirurgie.
47. Illustrirte Monatschrift der Artzlichen Polytechnik.
48. Der Fortschritt.
49. Fortschritt der Medecin.
50. Chemiker Zeitung.

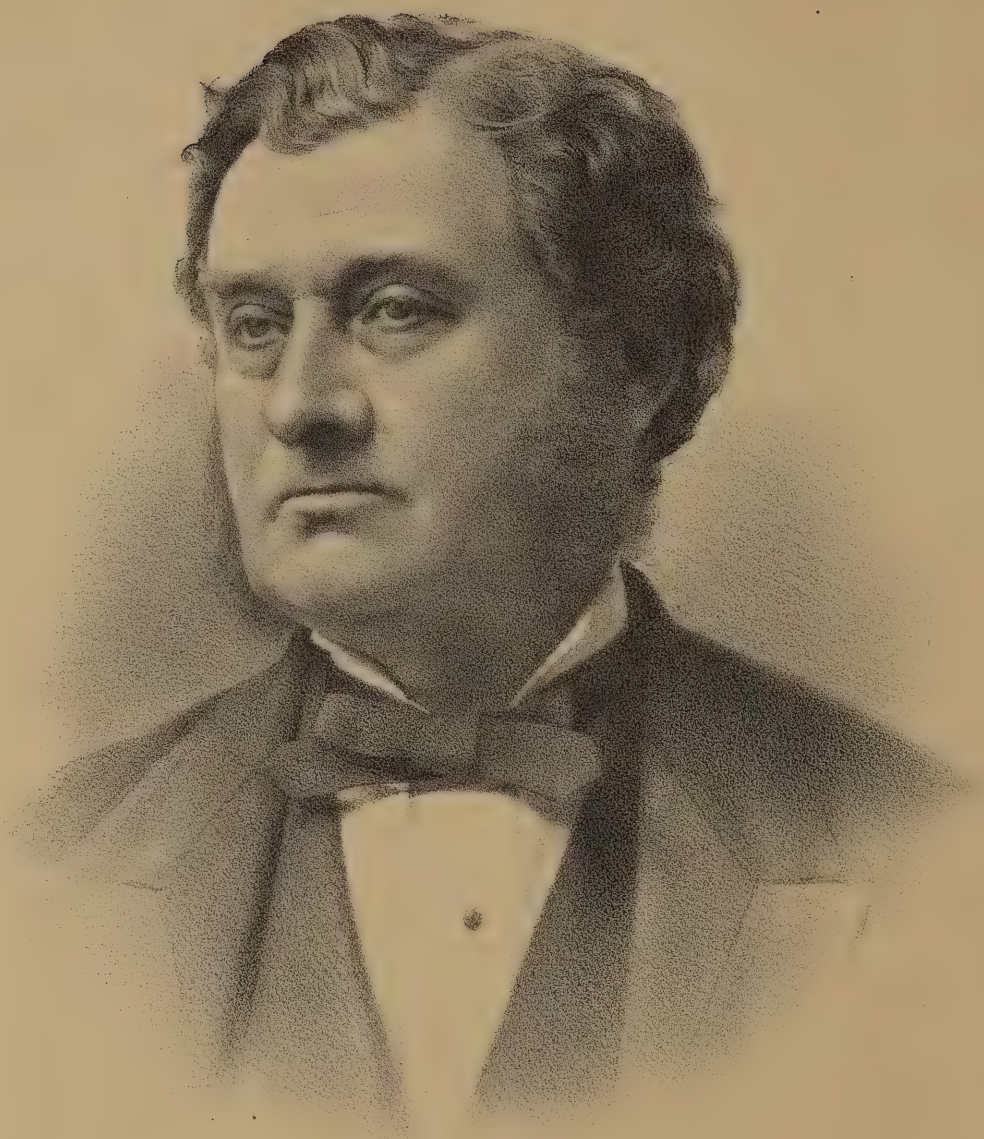
ITALIAN:—
51. Lo Sperimentale.
52. Rivista Internationali di Medicina.

PORTUGUESE:—
53. A Medicina Contemporanea.

RUSSIAN:—
54. Vratch.

SPANISH:—
55. Rivista Clinica de Barcelona.

TURKEY:—
56. Revue Medico-Pharmaceutique Constantinople.)



Lionel S. Beale

THE

Provincial Medical Journal:

A MONTHLY REVIEW OF MEDICAL SCIENCE, LITERATURE, AND BIOGRAPHY.

VOL. VIII.] FEBRUARY 1, 1889. [No. 86.

Our Portrait Gallery.

LIONEL SMITH BEALE, M.B., F.R.S.

LIONEL SMITH BEALE, now senior Physician to King's College Hospital, and Professor of the Principles and Practice of Medicine in King's College, and formerly Professor of Physiology, and of General and Morbid Anatomy (seventeen years), and afterwards Professor of Pathological Anatomy (eight years), was born in London in 1828, and educated in King's College School, and in the medical department of King's College. He was elected a Fellow of the Royal College of Physicians in 1859; he is also an Hon. Fellow of King's College; a Fellow of the Medical Society of Sweden, of the Microscopical Societies of New York and California, the Royal Medical and Chirurgical, the Microscopical, and Pathological Societies. He was formerly President, and is now Treasurer, of the Royal Microscopical Society, and has been President of the Quekett Club; Member of the Academy of Sciences of Bologna; Corresponding Member of the Académie Royale de Medécine de Belgique, etc.

Dr. Beale is the author of several works on medicine, physiology, medical chemistry, and the microscope. Among these works are "The Microscope in its Application to Practical Medicine," "How to work with the Microscope." In the preface to the first edition of the latter work, he says: "An earnest desire to assist in diffusing a love for microscopical enquiry, not less for the pleasure it affords to the student, than from a conviction of its utility and increasing practical value in promoting advancement in various branches of art, science, and manufacture; a wish to simplify, as far as possible, the processes for preparing microscopical specimens, and the methods for demonstrating the anatomy of different textures; and the belief that many who possess microscopes are deterred from attempting any branch of original investigation solely by the great difficulty they experience in surmounting elementary detail and mere mechanical operations, are my chief reasons for publishing this elementary course of lectures, which was delivered during the past winter." This work has been through several editions. Also, "Structure of the Tissues of the Body;" "Protoplasm; or, Life, Matter, and Mind;" "Disease Germs: their supposed and real Nature, and on the Treatment of Diseases caused by their Presence;" "Life Theories: their influence upon Religious Thought," 1871; "The Mystery of Life: Facts and Arguments against the Physical Doctrine of Vitality, in reply to Sir William Gull," 1871; "On Life, and on Vital Action in Health and Disease." In the works just enumerated Dr. Beale has advanced arguments against all physical theories of life, and has contended that in every form of living matter, from the very lowest to the highest, there is incontrovertible evidence of the working of a force or power belonging to a category quite distinct from that which includes material forces. In fact, that there is really a *vital power* which operates only during life, and is peculiar to living things, which temporarily directs and controls matter and its forces, decomposes chemical compounds, builds up new substances, forms and arranges while the living state lasts.

Among Dr. Beale's medical works are: "The Anatomy of the Liver: Urine, Urinary Deposits, and Calculous Disorders" (four editions); "Urinary and Renal Derangements and Calculous Disorders: Diagnosis and Treatment;" "One Hundred Urinary Deposits," in eight sheets; "On Slight Ailments;" "Our Morality and the Moral Question." He has contributed several memoirs to the Royal Society, "On the Structure of the Liver," "On the Distribution of Nerves to Muscle," "On the Anatomy of Nerve-Fibres and Nerve-Centres," "On the Termination of the Nerves in the Papillæ of the Frog's Tongue," etc., which are published in the Philosophical *Transactions*, and in the *Proceedings* of the Royal Society. He has also contributed several memoirs to the Medico-Chirurgical, Pathological, and Royal Microscopical Societies, as well as papers to many of the journals, and has published pamphlets upon subjects of special interest.

Original Communications.

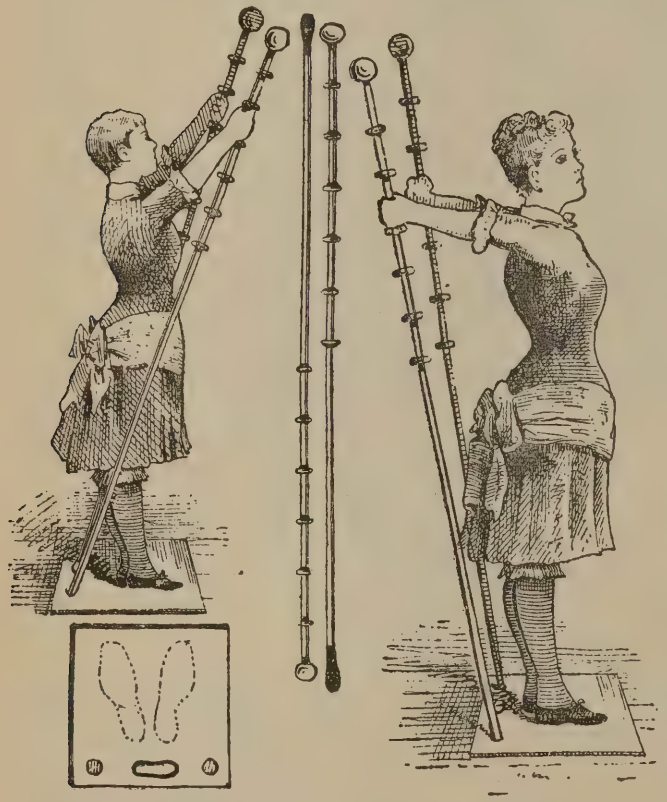
GYMNASTICS FOR LATERAL CURVATURE OF THE SPINE.

By A. W. Mayo Robson, F.R.C.S.,

Hon. Surgeon Leeds General Infirmary; Lecturer on Practical Surgery at the Yorkshire College; and Hon. Consulting Surgeon Batley Hospital.

I have been lately recommending with advantage, in cases of slight lateral curvature of the spine, round shoulders, and contracted chests, the use of a simple apparatus invented by Mr. R. Parke. The exercises seem so simple, and so efficient in developing the muscles, expanding the chest, and strengthening the spine, that I think they are worthy of being brought before the notice of the profession.

The apparatus consists of two upright poles, weighted at the top, and working on a pivot at the bottom, the patient



standing on a square board with indentions for the feet, so that the position may not alter. The apparatus is very simple and ingenious, and in its employment there is no violent action, nor any danger of over-strain. The accompanying drawings represent some of the positions. The patient stands on the foot-marks of the board, placing the poles in the sockets behind and external to the heels; he then grasps the poles firmly at the height of the shoulders. The first exercise consists in bringing both poles simultaneously to the shoulders, and thrusting them sharply forwards, which is repeated a number of times. The second exercise consists in bringing the poles simultaneously to the shoulders, and thrusting them out sideways. In the third exercise the poles are brought to the shoulders, thrust out in front, brought back, thrust out again sideways, and again brought back. The fourth exercise—which to me seems the most important, so far as the spine is concerned—consists in grasping the poles between the two lowest rings, and holding them out in front to the full extent of the arms, the tops of the poles touching, then swinging them back until they knock behind, taking care the elbows are kept straight and the body erect. The poles are made to strike both back and front each time. This is repeated a number of times, and is employed with the hands placed in all the other rings until the top is reached. The exercises are made more interesting and less monotonous if accompanied by music.

It seems to me that by the last exercises especially, both the muscles going from the chest to the arm at the front, and from the spine to the arm behind, are regularly and systematically exercised, and that the erect position, which must necessarily be observed during the drill, tends to develop the erector spinæ; but whatever be the mode of action, I am convinced that the effect is good, provided, of course, that there be no organic disease of the spine, and that the weakness is simply fractional.

CASES OF UNILATERAL SYPHILITIC AFFECTION OF THE SPINAL CORD.

By Henry Handford, M.D., M.R.C.P.,

Physician to the General Hospital, Nottingham.

The following three cases are of interest from the illustration they afford of the distribution of the sensory and motor paralysis, and, still further, as showing the remarkable degree of recovery which is attainable under favourable conditions. It is stated that in unilateral lesions below the middle of the dorsal region *sensation and motion* may be affected on the *same* side. In Case 1, sensation was manifestly more diminished on the side opposite the lesion, and so far as it goes, this case does not lend any support to the statement. But in all three cases the results were somewhat complicated by secondary softening lower down. This probably accounts for the somewhat rapid onset of complete paralysis in the latter two cases.

Case 1.—J. C——, æt. forty-five, was admitted into the surgical wards of the Nottingham General Hospital on March 30th, 1886, complaining of retention of urine and loss of power in the right leg. On April 6th he was transferred to my care. He had never been very robust; had been accustomed to drink a good deal, and had syphilis twenty years ago. Nearly a year before admission his right leg began to fail him while running. He had at one time been a professional long-distance runner. Three months ago he complained of indefinite pains in the chest and abdomen, and about two months later he had retention of urine. He was taught to pass a soft catheter, and continued to go about; but in a week or so later the right leg failed rapidly, and soon became quite powerless. Afterwards the left leg was affected also, but to a very much slighter degree. Sensation was much dulled in both legs, but was not quite absent in either; it was most diminished in the left. He also had loss of control over the rectum. He died in a few days of diffuse pelvic suppuration secondary to cystitis. After I saw him he was never in a condition to make a very precise examination of the affection of sensibility. There was no rigidity of the limbs. At the inspection, twenty-eight hours, *post-mortem*, a growth was found rather below the middle of the dorsal region. It was adherent to the inner surface of the dura mater, and involved the cord on

the right posterior aspect, extending into about one-third of the right half. There were no other growths, and no affection of the brain. The cord was softened and almost diffluent at the commencement of the lumbar enlargement. Diffuse suppuration was found on the left side of the pelvis, and was probably the immediate cause of death.

The illustration shows the general arrangement of the growth. Though adherent to the spinal dura mater it did not appear to have arisen from it. Its origin was probably in the pia mater, or in the cord itself. It bore considerable resemblance in its microscopic appearance both to a sarcoma and a glioma; but all the circumstances taken together make its syphilitic nature hardly open to doubt.

[From a camera-lucida drawing, magnified sixteen diameters, and reduced two-thirds. Although the growth penetrates the substance of the cord involving the posterior horn of grey matter and part of the anterior, the outline of the cord is still preserved.]

Case 2.—T. W——, æt. thirty-four, railway labourer, was admitted on August 12th, 1884, with complete loss of power in both legs. He had well-marked syphilis two years ago. His illness began nine days before admission with difficulty of passing water: then he dragged the right foot. He said he could not keep the toes off the ground. He had no pain. After three days he was obliged to keep his bed, and could not move his legs at all, and had retention of urine. He required the regular use of a catheter, but never had incontinence of urine. He did not come under my charge until four or five months after his admission. It is doubtful whether the loss of sensation at first was complete and equal on the two sides, but it is clear that two or three months before he came into my hands sensation was much better in the right leg than in the left. When I saw him first, in December, 1884, he could only slightly move the left leg, but could draw up the right freely, and just raise the heel from the bed. A careful examination of the sensibility was made. He did not detect the the touch of a feather so readily on the left leg as on the right, but a touch with the finger appeared to be felt equally well on both sides. As regards pain, a prick with a pin was felt normally on the right, but on the left it only excited a sense of contact, and could not be distinguished from a touch with the finger. This condition extended as far as two inches above the crest of the ilium. Sensibility to heat and cold was examined with test tubes filled respectively with cold and with nearly boiling water. On the right they were distinguished fairly, but on the left no difference could be felt between them. Ankle clonus was present on both sides, but more marked on the right. The knee jerk was very active on the left, but could not be tested on the right, because a very violent trembling—a sort of clonus—occurred on any attempt to bend the knee. The muscles of the right leg on the slightest irritation were thrown into a state of clonic spasm, which lasted a long time. The electro-sensibility was very much diminished in the left leg—a constant current of sixty milliampères was not felt at all; a very strong faradic current was only felt because of the muscular contractions it caused. On the right side it was fairly good. The electro-contractility was diminished on the left. *The left leg is a better conductor than the right.*

By February 20th, 1885, he was able to walk with sticks, but the right leg continued in a spastic condition from tonic spasm. The left could be moved freely. Sensation had not improved in the left leg. He has a syphilitic, serpiginous ulceration on the scrotum. Two years later, in July, 1887, he remained in much the same condition. The right leg was stiff, and he could not walk without a couple of sticks. He still required the use of a catheter.

He improved greatly at first, under antisyphilitic remedies; but though these have been continued at intervals for three years or more, he has latterly remained at a standstill, and no further improvement seems probable. Still, when it is remembered that at one time he had not the slightest power of movement in either leg, the ability to walk, even though with the aid of sticks, is a vast improvement.

Case 3.—G. T——, æt. thirty-five, a porter, was admitted under my care on July 30th, 1887, with complete loss of power in both lower extremities, and incontinence of urine and fœces. No direct evidence of syphilis could be obtained from the patient, but he admitted having a sore on the penis a few years ago, though he attributed it to an injury. His wife, however, was under my treatment as an out-patient, with a severe attack of syphilis, between two and three years ago. The patient's illness began with pain about the middle of the back, two months before his admission into the hospital. There had been no exposure to wet, and no unusual exertion. He continued his work as a porter for a week, but while carrying a weight on his shoulders a severe pain *suddenly* shot down his right leg, and he had to discontinue his work. Next morning he was better, and attempted to work again, but pain down the right leg *suddenly returned*, and nearly made him fall. He was able to walk home, and attended as an out-patient for a short time, complaining of loss of power in the right leg and pain in the lumbar region. He was then laid up at home with complete loss of power in the right leg before the left was affected at all. Very shortly afterwards he lost both use and feeling in the left leg, and also all control over bladder and rectum. On admission he had complete loss of power and of sensation in both legs, a bed sore as large as the hand over the sacrum (leading later to exfoliation of small portions of bone), and loss of control over bladder and rectum. There was no constant dribbling, and on examination of the rectum the sphincter was found to contract. It was evident, then, that the lesion was above the lumbar centres, and had not destroyed them. He could not move the legs in the slightest degree. He was treated by antisyphilitic remedies, and on September 7th the report in the case book runs: "Plantar reflexes, and common sensation in feet and legs returning; localises correctly, but requires a moderately firm touch. Knee jerks exaggerated on both sides. About three inches below the crest of the ilium sensation on the outer part of the left thigh becomes deficient. In the middle line there is a sharp line of demarcation about three inches below the umbilicus, above which sensation is good, and below, deficient. On the left side he can feel about two inches lower down than on the right."

By January, 1888, the large bed sore which the patient had on admission was nearly healed. Sensation continued to improve, and was better in the left leg than the right. There was some tonic spasm in both legs, and they were also subject to clonic spasms, being sometimes forcibly jerked up, and at other times jerked out straight again,

Voluntary motion was returning. He could sit in a chair, but could not stand without support. Shortly after this he went out, and was lost sight of.

There could be no doubt that the lesion here was a gumma, probably arising in the dura mater, and affecting the cord secondarily, involving chiefly the right side in the lower dorsal region, and leading later to softening (myelitis). The *sudden* onset of symptoms arising from a growth is curious, but is a phenomenon not unfrequently met with in such cases, and also in intestinal obstruction from growths in the intestine.

SUGGESTIONS FOR THE MORE RATIONAL THERAPEUTICAL TREATMENT OF RESPIRATORY AFFECTIONS.[1]

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(*Continued from page* 8.)

The indiscriminate use by the public of quack nostrums for the relief (?) of respiratory affections—from simple cough to the advanced stages of phthisis—cannot be too strongly condemned. Upon our profession rests the duty of enlightening the public, so as to lead to the discontinuance of such nostrums. This is but reasonable, since our physiological and therapeutical knowledge—independent of our relations, professional or otherwise, with those suffering from affections of the respiratory organs—would point us out as the chief exponents of their danger and fallacy. The use of these noxious agents—noxious in so far as their most active constituent, opium or sedatives in some form or other, is concerned (though disguised under the names of simple or harmless substances, aniseed, linseed, or horehound, for instance, or by some high-sounding and fanciful appellation)—in the domestic treatment of the before-mentioned affections, and especially among children, is simply monstrous.

It is to be regretted that such conduct is attributable not only to the ignorant and uneducated, but also to the intelligent, and even the higher classes of society. Can we wonder at this? Take up any so-called religious publication, and we find its advertisement pages filled with the published statements of those who have experienced the benefits of these panaceas, attested by all classes of society, from the peer to the peasant, inviting personal reference for further accounts of their remarkable virtues. Naturally enough, the most is made of cases which "have tried all the well-known specialists in such diseases;" "had been given up by the faculty;" "had tried every other remedy, and found them all fail," until Providence directed their attention to the nostrum in question; and, though doubting its efficacy, "their experience has been so remarkable, that they deem it a duty which they owe to their fellow-men to publish what great things it has done for them." Not only are the public led astray by these means, but we find learned (*sic*) members of the theologica profession "preaching" on Sundays, and "practising" during the rest of the week on the credulity of the public, who naturally suppose that the prefix Rev. stamps them as genuine, and that the advice and remedies are but a practical exposition of that greatest of all the virtues, "charity," which zeal for their profession leads them to adopt as a means to an end. In many cases—it might be said, even in all—the end in view is not so much the "charitable" object of relieving suffering, as of increasing the worldly prospects of the reverends in question. At the least, we may say, the latter object is the primary consideration, the other being quite secondary. With these incentives to error so widely diffused and so well disguised, it behoves us as true members of our profession to use our influence with the public, both by lectures and private conversation, to remedy this increasing evil. But before proceeding to cast the mote out of our brother's eye, we must be mindful of the beam in our own. Do we as a profession admit the "beam in our own eye?" Is it a fact, known, of course, only to ourselves, that while the profession as a body denounces these quack nostrums because of their active ingredients, many of its members daily prescribe for their patients drugs which, when consumed by a patient in some quack remedy, are declared injurious, but which, having the sanction and authority of a duly qualified member of the profession, become, in his eyes at least, perfectly justifiable and legitimate? Now, though far from wishing to charge this folly upon the profession as a whole, I feel convinced it exists in a sufficient degree among us to call for remark, and should lead us to consider if this *routine* treatment of disease—for it is here that the mischief lies—is justifiable in these days of precise diagnosis, assisted by so many valuable instrumental aids, and possessing as we do so much greater, though far from perfect, acquaintance with therapeutics founded upon clinical research and physiological experiment. To stop a cough by sedatives is one thing; but to seek out the exciting causes, and to apply suitable remedies, is quite another thing—not so easy, perhaps, but much more scientific. Such treatment as the former I have no doubt might be looked upon as justifiable by our predecessors, when symptomatic treatment was general, but such an argument can hardly hold good now. The indiscriminate use of sedatives in respiratory affections is derogatory to us, who are so far beyond our predecessors in matters of therapeutics. Take, for instance, the use of opiates in children. Under ordinary circumstances they are not admissible, on account of the cerebral congestion produced by the drug. It is almost unnecessary to remark how exceedingly frequent these congestions are in respiratory affections of children; hence, the administration of drugs with these tendencies is usually, though not universally, abandoned.

Let me take a case in illustration of the "routine" practice I here deprecate. A child is suffering from a troublesome hacking cough, accelerated breathing, slightly increased temperature, with general restlessness interfering with sleep; no marked physical signs are apparent upon an examination, and this is far from unusual among children in the earlier stages in which the constitutional symptoms are out of all proportion to the local disturbance. We content ourselves with a diagnosis of some slight catarrhal affection, and perhaps carrying out the same idea in reference to children as we do in adults, that the calmative and sudorific action of an opiate will exactly meet the case,

[1] [To the writings of the late Dr. Milner Fothergill, whose recent decease the profession still mourns, I must express my great indebtedness, not only for suggesting the line of thought I have endeavoured to follow in this paper; but also, as the readers of his works will observe, by the numerous quotations, for the actual words in which to express my meaning. I take the opportunity, therefore, at this stage to fully acdnowledge this assistance in a general way, and thus avoid a repetition of references. For further information I would suggest a careful perusal of the following works of Dr. Milner Fothergill: "The Antagonism of Therapeutic Agents," "Chronic Bronchitis," "Handbook of Treatment," "The Physiological Factor in Diagnosis," and "Gout in its Protean Aspects."]

we fall into the error of prescribing a mixture combining an expectorant with some opiate, such, for instance, as:

℞. Vin. Ipecac ʒ ii.
Tinct. Camph. Co. ʒ iij.
Aquam ad. ℥ iv.
M. fiat mist. Sig. ʒ i. vel. ʒ ij., pro re nata.

Now, let us question ourselves, if such a prescription is either scientific or even judicious. The smallness of the dose of opium seems to justify its use; but though we guard against the danger we are aware of—cerebral congestion—are we not overlooking the not less equally significant fact of idiosyncrasy? *All children bear opium badly;* but some exhibit toxic symptoms from most minute and apparently safe doses; the exact converse is true of belladonna. This calls to my mind the question said to have been asked by an examiner of his candidates: "How much opium would you administer to a child a year old?" Some answers were so carefully calculated that the dose mentioned savoured of homœopathy; but evidently, the most infinitesimal dose did not satisfy the examiner; and when one candidate answered "*none*," the hearty approval of his questioner showed the correct answer had been given. I do not wish it to be understood from this episode that I agree with the said examiner: I admit he erred, but in my opinion on the safe side. There is no doubt that opium, in one of its many forms, is not only useful, but absolutely necessary in some ailments of children; but I decidedly exclude respiratory affections, particularly acute or sub-acute inflammatory manifestations of disease in these organs.

To return to our illustration. Let us analyse the symptoms. Suppose no physical signs are present, we have (1) increased temperature; (2) cough, frequent and troublesome—irritative, if you like, but dependent upon conditions removable without the aid of opium. The congested state of the air passages in the initial stages of catarrh renders them more susceptible to the irritation of the inspired air; the slight, though scanty and tenacious secretion characteristic of this early stage, of necessity excites repeated and frequent acts of coughing for its removal; (3) general restlessness: this is a natural accompaniment of the increased temperature, due to the heated blood travelling through the cerebral vessels, which, as we know, are, during the rapid development of the brain, proportionately more numerous and better filled. The slight respiratory embarrassment, as evidenced by the accelerated breathing, to a certain extent permits the venous cerebral vessels to become somewhat congested. The proportionately greater quantity of arterial blood—its increased temperature and its possible impurity on account of the restricted action of the skin and kidneys, together with the slight though apparent fulness of the cerebral veins, as shown by the somewhat congested and suffused eyes and mental hebetude—these symptoms, when analysed, afford the true indications for treatment—viz., to reduce temperature, promote expectoration, and increase the action of the skin and kidneys. Can these indications not be met in a manner which, though efficient, shall not be open to the objection which opium, under the above circumstances, certainly possesses? I think they can; for by means of a combination of saline diaphoretics and expectorants we may attain the desired end without running any risk from opium, owing to idiosyncrasy, etc., such as:

℞. Liq. Ammon. Acet. ʒ iv.
Vin. Ipecac. ʒ iss.
Sp. Eth. Nit. ʒ i.
Aquam. ad. ℥ ij.
M. fiat mist. Sig. ʒ i., vel. ʒ ij., 3 tis. horis.

We look for relief, first, by means of the diaphoretic action of the acetate of ammonia, which, by dilating the cutaneous capillaries, brings a larger quantity of blood into the heat-losing area; radiation reduces its temperature. The action of the sudiparous glands purifies the blood, and we find as a consequence that the slight congestion of internal organs, brain included, which resulted from the contracted cutaneous vessels, is relieved. The vitiated state of the blood is improved, and the temperature falls. The diuretic further aids the skin; and though the quantity of urine may not be appreciably increased, owing to the excessive secretion from the skin, its solid constituents are proportionately greater, and the oxidised products are eliminated. Independent of the assistance of the ipecac. as a diaphoretic, we have its specific action upon the bronchial mucous membrane; the secretion becomes more plentiful, less tenacious, and consequently the cough, which before was troublesome, is now not only effectual, but less frequent, and relief is obtained by the removal of the accumulated secretion. The use of poultices to the chest would still further help us by withdrawing from the lungs an increased quantity of blood, and thus relieving the pulmonary circulation. A room having its temperature kept about 60° or 65°, and if the cough be very troublesome and dry, the introduction of steam into the atmosphere will materially assist in bringing about a satisfactory change in the patient. Such, then, in my opinion, would be a thoroughly scientific, as well as rational therapeutic treatment for a case of catarrh threatening to become bronchitic, in children.

The foregoing remarks are illustrative of the line of treatment which the progressive science of physiology is year by year teaching us; and while admitting that clinical observation and treatment founded upon such observation is undoubtedly valuable, I also maintain that it is neither valuable nor trustworthy unless it corroborates some of the truths which physiology had previously advanced. Thus only can we feel satisfied of the stability of the foundation on which we are building our system of therapeutics, and look forward to the permanence of such a system as shall embody the clinical corroboration of physiological data. Here we see how much one branch of medicine depends upon the development of other branches, and how true advancement is only in proportion to the consolidation of knowledge arrived at in the physiological laboratories and at the bedside. The following extract from an article in the *British Medical Journal* of February 2nd, 1884, appears to confirm these views:—

"The whole course of therapeutics is strewn with the wrecks of remedies which have been foisted upon the profession by the supposed results of clinical observation. Perhaps nothing is more delusive than a fragmentary and ill-digested collection of clinical facts. The sources of error are too numerous, and the conditions too complicated, to allow clinical observations to determine any important conclusion until many facts, well observed and carefully collated, have been brought to bear on the question. More especially must this be the case when the clinical observations contravene what are supposed to be well-demonstrated scientific facts, as in the case under consideration. Science will be of little avail in promoting the advancement of the medical art if facts established by research and observation are to be lightly set aside by clinical observations short of absolute certainty. It seems far more reasonable to conclude that clinical experience will, in the end, conform to scientific demonstrations."

The use of respiratory stimulants, which I am endeavouring to advocate, has its foundation in well-established scientific facts; hence, the clinical *follows* the scientific—the proper order.

As members of a profession which owes most of its progress, both medical and surgical, to the labours of those investigating the secrets of nature as revealed in the animal creation, and to whom experimental enquiry is essential to the thorough understanding and perfecting of observations already made, we cannot but deplore the false position occupied by some, who by their agitation, have so bound the hands of these workers as to make the study of practical physiology repugnant to them, and obliged the profession generally to obtain much of its information, so essential to progress, from continental laboratories. The ability of the profession in our country is beyond question, but the means for scientific research are wanting, owing to an act of legislation based upon ignorance, misunderstanding, and a culpable want of confidence. How would the circulation of the blood have been discovered, with all the knowledge flowing from its discovery, had Harvey not performed his experiments? What was Jenner's discovery founded upon, but experiment? How could ovariotomy have exercised such a beneficial influence upon our women but for Sir Spencer Wells' experiments? The fact of a Vivisection Bill having been passed in England will remain a stigma upon its people, who claim to be recognised as the most enlightened and progressive in the world. No greater argument for the political powerlessness of the profession need be advanced than the passing of such an Act; and until the profession is united (which, I regret to say, even upon this question, is not the case), we can look for little respect from the public. Why, in a case in which our interests, as well as those of the public, are so trampled upon, do we look so indifferently upon our position, and sit with folded arms and see the legislative cords being drawn tighter and tighter round the most active pioneers of our science? Surely the repeal of this Act would benefit the profession and the public much more than any number of Medical Reform Bills. But my indignation at such arbitrary legislation, or, at least, the means by which such enactments were successfully passed, is so great, that I have wandered away from the main subject.

Experimental enquiry and research have done very much towards elucidating the various phenomena connected with or depending on affections of the respiratory organs; hence my digression. In the first part of this paper I attempted to explain that the knowledge thus obtained was unknown to, or, if known, despised by those who propose to treat, with so much success, these affections by a plan of treatment utterly at variance with the physiological laws as then propounded; and that even many members of our own profession either did not fully appreciate these laws, or by a plan of "routine" treatment so act as to lose the benefit derived from a thorough understanding of them and their application to a system of therapeutics. I am fully aware how difficult it is to change one's accustomed plan of treatment after a long continuance of the same, owing to our thoughts and actions having worn, as it were, certain ruts in our minds. Some startling results, hitherto unthought of, must be presented to bring about the necessary change; hence my endeavour to emphasise the dangers of administering indiscriminately certain drugs, such as chloral, opium, etc., in a class of cases which give us the bulk of our medical experience in this country, the variable climate of which, independently of other causes, tends so much to the production or aggravation of so many affections of the respiratory organs. Once let it be understood upon what grounds and by what means results so disastrous are brought about, and our natural desire to do all in our power for the benefit of those committed to our care will compel us to reconsider a course of treatment, the evils of which have been exposed by a line of argument based upon well-recognised and authenticated facts—as, for instance, the "sleep of death" induced by the exhibition, with the best intention, of a draught containing chloral.

The breathlessness of anæmia and chlorosis is but one of many other symptoms associated with the diminished number of red corpuscles in the blood. Neuralgia, so frequently met with in anæmia, was said by Romberg to be the prayer of a nerve for healthy blood. So, to a certain extent, dyspnœa is the prayer of the respiratory centre for healthy blood, but with this important difference, that the dyspnœa, for a time at least, purifies the blood. It is a sign of danger; but, fortunately, in itself also a means of averting the danger. Apart altogether from the treatment of anæmia proper by iron, which does not particularly concern us here, though some remarks upon its administration will be necessary in order that the breathlessness, one of the symptoms of anæmia, shall be effectually relieved (for this relief will go on, *parri passu*, with the increasing richness of the blood in red corpuscles), I wish principally to draw attention to the advantages of a combination, with iron, of some other drug which materially assists its action.

The generally-impaired nutritional state which the excess of adipose tissue—so often associated with anæmia, and which I explained as due to the deficiency of oxygen to burn up the hydrocarbons—must not lead us to overlook, affects not only the voluntary muscular system, as evidenced by the fatigue and weariness after trifling exertion, but also the involuntary muscular fibres of the heart, intestines, etc., proof of which is found in the usual constipated state of the bowels and the frequency of temporary incompetence of the mitral valve due to slight dilatation of the left ventricle from its impaired nutrition. This latter cause, together with the weakened state of the respiratory muscles, undoubtedly favours the occurrence of pulmonary congestion, and must not be left out of consideration if we expect successful results to follow our treatment. The addition of strychnia to the iron mixture is specially adapted to those cases of general debility where the respiration is embarrassed. In my practice I meet annually with very many cases of anæmia, and the prescription I almost invariably adopt, unless special symptoms indicate otherwise, is this:

℞ Liq. Ferri, ʒ iii.
Liq. Strychnia, ʒ i.
Sp. Chlorof., ʒ ii.
Infus. Quass. ad., ℥ viii.
M. fiat mist. Sig. ℥ js. ter in die, ex. aq. post cibum.

By such a combination we attack not only the condition of the blood, but, by increasing the tone of the muscular system generally, voluntary as well as involuntary, we aid the respiratory and circulatory functions in an extremely favourable manner.

If we have evidence of functional incompetence of the mitral valve, the addition of six minims or so of tincture of digitalis, or strophanthus, is valuable; and if palpitation be present, a belladonna plaster over the cardiac region meets all the indications for treatment.

In whatever form iron is given, it should be well diluted; and nothing answers the purpose so well as a good draught

of cold water taken after each dose. In the dilution of the constituents of the natural waters, both chalybeate and alkaline, lies the secret of their success; and, but for the change of place and scenery, with the mental influences resulting therefrom, we can carry out a "spa" line of treatment under home influences; an object not unfrequently of great importance.

Another point about the administration of iron as a pure hæmatic is that it should be given *after food*, and digested with it. It is said that the gastric irritability, or perhaps gastric ulcer, so frequently associated with pronounced anæmia, contra-indicates the use of the astringent preparations of iron. Such is certainly not my experience. The above combination rarely fails me unless some decided irritation with vomiting exists, which I subdue with bismuth, prussic acid, etc., and then commence the iron mixture. We have, however, in dialysed iron a most satisfactory preparation in case the preceding form is unsuitable, and especially in *young* people—grown up children—where the exhibition of Parrish's syrup is not indicated.

In some cases of anæmia, when iron in any form seems to do no good, arsenic, as pointed out by Dr. Byrom Bramwell, is a most useful remedy. It is a powerful alterative and blood tonic; and its efficacy in procuring more perfect elimination of waste, and so more perfect nutrition of the body, is well marked. The use of the drug among the mountaineers of Styria, for the purpose of improving and strengthening the respiratory powers, is well known; and it certainly is useful in those cases of anæmia with slight apical consolidation; but whether its effects are due to any direct action upon the pulmonary tissue, or to its alterative properties and the consequent increased nutritive activity, I cannot say.

The anæmic condition frequently associated with the so-called blood poisons, such as gout, rheumatism, syphilis, malaria, mercury and lead poisoning, etc., require for successful treatment the combination, with the iron, of the so-called specifics for these affections. In gout and rheumatism, for instance, alkalies must be administered. We would give the bicarbonate of potash, or citrate of lithia, with the ammonia-citrate or tartrate of iron; and in adding the strychnia, which in these cases is equally useful, there is one point worthy of remembrance—that strychnia, an alkaloid, should never be prescribed with an alkali; being soluble in an acid, as in liquor strychnia, it is precipitated by the excess of alkali, and hence might become a source of danger. When prescribing alkalies, the tincture of nux vomica, in ten minim doses, should be substituted.

In syphilis, when, in addition to the anæmia dependent upon the dyscrasia, the administration of mercury is often necesssary for a lengthened period, we have a double source of danger to contend with—the original affection, and the remedy employed—for mercury produces marked anæmia when long continued; so that in broken-down syphilitic constitutions, or when prescribing an extended course of mercury, iron should be combined with it, as—

℞ Liq. Hydrarg. Bichlor.
Liq. Ferri, āā ʒiii.
Infus Quass., ad. ℥viii.
M. fiat mist. Sig. ℥ss. ter in die.

Or in children, hydrarg. c. creta, night and morning, and the syrup of iodide of iron through the day.

In malaria, where we meet with most pronounced anæmia, the addition of quinine to the iron becomes a necessity, in order that the destructive tendency of the malarial poison upon the red corpuscles may be successfully prevented.

The treatment of asthma naturally resolves itself into that of the paroxysm and the interval. Professional opinion is now almost unanimous upon the etiology of idiopathic asthma, but the multitude of remedies which the various text-books prescribe, makes its treatment a matter of difficulty. Consequently, we find the greatest divergence of opinion regarding it; almost every practitioner having his own "specific" for cutting short the paroxysm. One maintains that a cup of hot "*café noir*" supersedes all the remedies of the pharmacopœia; while another finds a combination of almost all the known anti-spasmodics necessary to bring about a similar result. Between these extremes I think the truth will be found. It is reasonable to suppose that the speediest results will be brought about by remedies acting directly upon the spasmodically-contracted bronchi; hence the universal application of drugs in the form of vapour, which are brought into actual contact with the bronchial mucous membrane by means of inhalation. This undoubtedly holds true only so far as the inspiratory force is capable of doing the part of carrier. We have seen that when the paroxysm is fully developed, the inspiratory act only succeeds in bringing air into the trachea and larger bronchi, since auscultation, during a paroxysm, does not reveal vesicular breathing; consequently, much of the good expected from the drug cannot be realised; and in this lies the explanation of failure and consequent disregard for certain drugs, used when conditions are unfavourable for the development of their action. It is obvious, then, that remedies in vapour, whatever they may be, which require, for the exercise of their beneficial properties, actual contact with the contracted bronchi, must be used *before* the inspiratory function is so much interfered with as to prevent this; otherwise the vapour will only enter the trachea and larger bronchi, and fail to give relief. To a certain extent they may be effective, as the absorptive properties of the mucous membrane still remain; and for this reason inhalations, such as chloroform, nitrite of amyl, etc., can be used during the height of the paroxysm, because the surface, though small, with which they come in contact is absorptive; and being themselves readily absorbable, their action is speedily manifest. But with drugs which are less easily absorbed, failure only can be looked for; and then we have recourse to remedies which act after entering the circulation. Before entering upon the consideration of this class of drug, let us for a moment look at the position—an intermediate one—held by emetics. The administration of an emetic, say of ipecac. wine, may cut short an attack; but how does it effect this? Is it by means of its well known action upon the bronchial mucous membrane, or must it be looked upon in the light of a revulsant—a transference of nervous energy to another part of the economy? Probably from the rapidity with which relief follows emesis, we may conclude it is due to the latter cause. Emetics are undoubtedly useful, and perhaps most of all in those cases of asthma due to gastric irritation, set up reflexly, from a supper or some indigestible article of food, the removal of which by means of emesis is the chief indication of treatment, taking, of course, for granted that no contra-indication, such as cardiac or serious pulmonary disorder, etc., is present. When conditions such as these exist, emetics become absolutely dangerous.

Thus, while granting the early use of vapours in some form or other to be the best means for *our patients* to use, *we* certainly possess the power of almost instantaneously

cutting short a paroxysm of idiopathic asthma by means of the hypodermic administration of a combination of morphia with atropia: gr. $\frac{1}{4}$ to gr. $\frac{1}{3}$ of the former, and gr. $\frac{1}{100}$ of the latter. According to Dr. J. G. Oliver in the *Practitioner*, January, 1876, "Morphia and atropia are superior to morphia alone; the good effect is more speedy and complete, and they produce no depressing gastric disturbance. The very frequent use of the injection does not appear to injure the general health. Speedy relief. The effect is generally declared in five minutes, in the form of comfortable sleep and quiet breathing. The most intense attack has given way completely in from fifteen to twenty minutes."

The advantage of the combination of these two drugs I will discuss when considering the physiological action of the respiratory stimulants; for the present, it will suffice to say that hypodermic injections of these remedies may be used with perfect safety in cases of cardiac asthma; and I have repeatedly verified the above statement of Dr. Oliver; the atropia allowing the morphia to act as a relaxant of the spasm, without depressing the already weakened respiratory centre.

The leaves of several plants of the solanaceous order—stramonium, tatula, belladonna, hyoscyamus, and tobacco, together with lobelia, form the chief medicinal constituent of the many forms of cigarettes used for inhalation purposes. The fumes arising from burning nitre paper, or paper evolving peroxide of hydrogen, are often very useful. The vapour of ammonia can be similarly used, or a solution painted upon the pharynx with a brush, but this method of treatment must be conducted carefully, or results such as those described by Trousseau in 31st Lecture, vol. ii., might cause great alarm and anxiety.

The treatment during the interval is of great importance, and towards this we have the opinion of many eminent clinical authorities. Niemeyer holds by quinine for its radical cure, especially if the attacks are frequent, and the interval regular. Da Costa administers lobelia with hyoscyamus, and Hoffmann's anodyne (sp. eth. sulph. co.) during, and for some time after, the paroxysm, and then pays great attention to the possible reflex causes, and of the stomach particularly; giving gr. ii. of blue pill, and a dose of Rochelle salts in the morning; and then for some time a mixture of arsenic and belladonna, or gentian. Trousseau has a rather tedious and complicated plan of treatment, consisting of the administration for ten days of gradually increasing doses of belladonna, or its alkaloid atropia; during the next ten days tablespoouful doses of the syrup of turpentine; and for the last ten days arsenical cigarettes are to be smoked; while upon every tenth day one drachm of powdered yellow cinchona bark in a cup of coffee is to be taken fasting. It is to the atropia he looks for the most benefit; the others are but adjuncts. The arsenical treatment of asthma is as old as Dioscorides, who used what was in his day called "sandarach," but is now known as realgar, or red sulphuret of arsenic. The treatment by large doses of iodide of potassium is now highly praised; but with doses of one drachm, unpleasant symptoms are liable to occur, unless a small quantity of opium be given with it; and if continued for some weeks the patient must be watched, lest it impoverish the blood, and produce purpura, boils, or even carbuncle. Dr. Hyde Salter, a great authority upon asthma, looks upon stramonium as *the* remedy, used as inhalation, or given as tincture or the extract; remarking that the earlier in a paroxysm it is had recourse to, the more likely will it relieve spasm. He also recommends iron and quinine, with some mineral acid as tonics in the interval.

But of all the remedies which find the greatest favour among many practitioners, belladonna stands most prominent, and its advantages are due to its being a respiratory stimulant, thus rendering the function more perfect. It reduces the tendency to spasm, which has the peculiarity of coming on, as I remarked in my first paper, during the time when the sleep is most profound, and when the respiratory act is both shallow and infrequent.

I cannot omit the plan of forced expiration and inspiration, advocated by Dr. J. S. Monell, of New York, in the *New York Medical Record* for August 15th, 1886, for the treatment of asthma. Painting the course of the pneumogastrics in the neck with tincture of iodine has been tried with success, and so has galvanism. Dr. Thorowgood strongly advocates strychnia in complicated cases. The residential treatment of asthma is very difficult, and in the purely nervous form it is to be found out only by experience; but in many cases a sea voyage is beneficial; while if any complication, such as bronchitis, emphysema, etc., exists, a climate suitable to such complications must be advised. It is wonderful how much difference is felt by a change of only a few miles.

Asthma, occurring in connection with grave organic changes in the kidneys, or in gouty patients, will require the treatment of the interval to be conducted upon those lines most adapted to the condition of the blood causing them. This has been already fully discussed, and we must never permit the paroxysm to turn our attention away from the real malady, of which the asthma is but one among many symptoms. I may remark, however, that with the high arterial tension met with in subjects of these disorders, drugs having the property of relieving arterial spasm are often more efficacious than ordinary anti-spasmodics; and among such, nitrite of amyl., nitro-glycerine, and nitrite of sodium stand out prominently. Sedative drugs, more particularly opium, are to be avoided, on account of their power of restricting tissue change, and their interference with the eliminating properties of the liver and kidneys, organs upon the proper functional activity of which the life of patients suffering from uræmia and lithiasis, depends. Alkalies and the astringent preparations of iron, with diuretics, and, if necessary, saline purgatives to assist, must be assiduously administered during the interval; and the exhibition of all food containing an excess of nitrogenous elements must be restricted to the narrowest limits.

In old standing cases the administration of belladonna or strychnia can do no possible harm, and may with advantage be combined with the ordinary treatment; but here again I must draw attention to the danger of prescribing an alkaloid with alkalies. In Wood's treatise on "Therapeutics," 2nd edition, 1877, p. 646, I find a remark that "death has resulted from a prescription containing strychnia and iodide of potassium, all the alkaloid being taken at the last dose." In such cases, then, the tincture of nux vomica or tincture of belladonna must be prescribed.

Cheyne-Stokes' respiration being the signal of approaching dissolution in many cases, naturally admits of little in the way of treatment; but the cause of its production being so well known, the means to be adopted are such as will give increased energy to the fast-failing respiratory centre, and this is to be found in atropia. Hypodermic injections of $\frac{1}{100}$ gr. might be tried; while attention to the original disease

with which this phenomenon is associated, is not to be neglected; so that, while in many cases the heart is failing, digitalis and nux vomica must be persevered with; if uræmia is present, the vicarious emunctories must be excited to action. I have spoken of the postural treatment of those cases of apoplexy, where consciousness is long in returning, in my first part, and need do nothing more than call it again to mind, as I am more and more convinced of its utility in preventing pneumonia.

(To be continued.)

A LECTURE ON SOME OF THE CLINICAL RELATIONS OF ALBUMINURIA.[1]

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(Continued from page 28).

Of other uræmic manifestations, most of which are accompanied by overt signs of the renal condition upon which they depend, I propose to say only a few words touching the occurrence of hemiplegia in the uræmic state; and of this I wish to say only, that there is a form of hemiplegia occurring, perhaps more frequently than is generally thought, of a quite recoverable kind. It is important to recognise this fact, for the reason that it is transient and recoverable as distinguished from that due to cerebral hæmorrhage. It is closely allied, both in its characters and its affinities, to the paralyses sometimes seen to follow epileptic seizures. I have seen a case in which the limbs remained paralysed for some three days, and then rapidly recovered, an event which could scarcely happen in an ordinary case of cerebral hæmorrhage.

One other point in relation to fatal forms of albuminuria I should like, with your permission, to touch upon, is the question of the relation of chronic renal disease to acute nephritis, especially that, the most common form of all, the result of scarlet fever. The point is an important one in regard to the future of cases of scarlet fever in which nephritis has supervened, A question which meets us at the outset is one of some little difficulty to settle, and, that is, what are the facts which are to be accepted as conclusive of the supervention of acute nephritis in scarlet fever? Here, as everywhere else, as I have said, the question is notoriously not one of albuminuria alone. What ought we to accept as the unequivocal evidences of Bright's disease in scarlet fever? I think we may safely say that any cases of scarlet fever in which blood and tube casts appear in the urine are cases of Bright's disease. What becomes of these cases, and what relation have they to the large white kidney (I use this term in its broadest sense as being the naked-eye expression of an epithelial as distinguished from an interstitial lesion) of later life? I am not aware that it has ever been seriously suggested that cases of scarlatinal nephritis eventuate in the granular kidney of later years. There seems no reason, clinically, to connect the two, that is, at first sight, yet I venture to say that if the most recently accepted teaching in regard to the pathology of scarlatinal nephritis be true, there is much more *prima-facie* reason to believe that cases beginning in scarlet fever in childhood end in granular and atrophic change than in epithelial proliferation. My own belief is this, that in its march, acute nephritis is very much on all fours with acute pneumonia. It is undoubtedly an acute specific disease, and, I believe, runs its course as such, either to complete recovery or destruction of the patient in a comparatively definite time. Here, again, I would say that the mere presence of albumen in the urine is no indication of the presence of renal change, for the purpose of calling to your mind the fact that in many cases of scarlatinal nephritis, the urine continues albuminous for weeks or even months, when there is every reason to believe, and as the event of the case shows, that the kidney, structurally, is perfectly sound. My own belief is this, and it is, if I mistake not, borne out by the records of this and other hospitals, that chronic renal disease is chronic from its beginning, and is not the result of any acute specific change, such as that seen in scarlatinal nephritis. Dr. Wilks has said, our dread as the advisers of our patients should be, not lest their acute diseases should become chronic, but lest their chronic diseases should become acute. Many a case of so-called acute spontaneous nephritis occurring in adults after exposure to cold or alcoholism, as the case may be, will, I believe, on careful investigation, turn out to be only an acute inflammatory condition, grafted upon an already diseased and enfeebled organ; and, so when the acute stage subsides, the so-to-speak normal condition of chronic disease is observed for the first time, and the case is naturally, but erroneously, regarded as one in which an acute disease has lapsed into a chronic and permanent condition.

"But the fact," says Dr. Goodheart,[1] "strikes me how sharply renal disease, or rather Bright's disease, in the wards, falls into two groups: the one, acute disease tending towards recovery, a group consisting almost entirely of young people; the other also called acute or subacute, but apparently very little bettered by treatment, and a disease of adult life. Of fifty-six cases of acute and subacute nephritis, no less than forty left the hospital passing more or less albumen, and most of them, after a long stay, ten only left well without albumen, and seven of the ten were under sixteen years old. A fact so striking calls for some explanation. What is it? Can there be this great difference between the reparative power of the kidney in youth and childhood and in adult age? Is it not rather an essential difference in the nature of the disease that one is really acute, and the other a slow insidious form, which passes for acute solely because in its exacerbation it is liable to become associated with anasarca?"

A few words upon the prognosis in cases of Bright's disease, and I finish what little I have to say upon the albuminurias dangerous to life, and pass on to speak of those commonly called functional or physiological albuminurias.

I believe, as I have said, that cases of acute nephritis occurring in children (and these cases will almost always be scarlatinal) generally terminate in a reasonably short time in death or recovery, most commonly in the latter; they do not lapse into a chronic and prolonged albuminuria, terminating after months or years in death. Acute nephritis and subacute nephritis, occurring in adults after exposure and other trivial causes, is to be looked upon with a great suspicion that the cases are only exacerbations or acute attacks grafted upon an already diseased organ. The acute attack may or may not subside, usually it does so (that is, barring the accidents of uræmia), leaving the case one of confirmed chronic Bright's disease.

The duration of cases of chronic Bright's disease

[1] Delivered in the Post-Graduate Course at the Leeds General Infirmary.

[1] "Guy's Hospital Reports," 1883, 1884, p. 139.

depends clearly upon the amount of useful available kidney-tissue remaining, and this of course is only to be estimated by the amount of urea eliminated by the organ, and obviously not by the amount of albuminuria. The practical bearing of this observation is well seen in the case of granular kidney, an essentially patchy lesion in its march, in which the period of the case may be measured, frequently by fives, and not seldom by tens of years. Renal asthma is frequently of fatal import, showing that the uræmic condition has reached its acme. "I have no recollection of a case admitted to hospital with well-marked renal dyspnœa which did not very soon terminate fatally."[1] Adopting Dr. Grainger Stewart's[2] classification, I now pass to the consideration of the albuminurias not dangerous to life, and I may say, at once, that into this class will fall all the many cases of albuminuria which are not cases of Bright's disease. To deal with the whole of this category it is not my intention, nor is it customary to do so under the title of albuminuria. The albuminurias then, arising in the course of acute diseases and pyrexial states, such as acute pneumonia, in certain toxic conditions (cantharides, carbolic acid, etc.), in cardiac and obstructive lung diseases, will not, therefore, concern us.

The class of cases to which I allude has been designated functional or physiological albuminuria. In regard to the terms functional and physiological, the former clearly indicates what I suppose we all believe, that there is an albuminuria which is not dependent upon structural change in the kidney in an ordinary sense; the latter term physiological is useless, and commits us to a position which is almost, it seems to me, a contradiction in terms. Some few observers, it is true, have averred that albumen or some allied proteid substance is, in the minutest traces, a normal constituent of the urine. These statements are wanting confirmation, and while this is so we may dismiss the term physiological as untenable. If, of course, all manifestations on the part of organs whose structure is normal are to be called physiological, then there is a physiological albuminuria; epilepsy would be a physiological convulsion; uræmic dyspnœa a physiological dyspnœa. It need scarcely be said that such a use of terms is misleading, to say the least of it, and means only a hair-splitting scarcely worth the time spent upon it.

The conditions under which albumen appears in the urine other than those of Bright's disease, poisons, pyrexial states, cardiac disease, etc., are very various, but are, on the whole conditions, not indicative of any serious disturbance of the bodily functions, and are not easily placed in any of the ordinary categories of diseased states. They include conditions of exertion and fatigue, as opposed to rest; conditions of feeding and varieties of food; certain curious blood changes, spontaneous, or induced by vaso-motor changes, or exposure, or the introduction of some poisonous substances not acting directly upon the kidney, any more than on any other organ (as distinguished from cantharides, turpentine, and some others); or the blood dyscrasia of malarial poisoning of mercury and of syphilis, and lastly of pregnancy. (The digestive conditions under which the diffusible proteids, produced by gastric and pancreatic digestion, appear in the urine, do not come within our present purview, and peptonuria as it is called, I shall not speak of, except to say that it is the least important of all the conditions allied to albuminuria.)

[1] The late Dr. Austin Flint in *Medical News*, December 5th, 1885, p. 638.

[2] *Op. Cit.*

At the outset I will make this general proposition, which applies to the differential diagnosis of all functional and organic diseases affecting any system or organ. For practical purposes it is incumbent upon us to show, not that the case in question is one of functional albuminuria, but that it is *not* a case of Bright's disease; in short, all possibility of the case being one of organic disease of the kidney, must be negatived before we are in a position to state, with safety, that any given case is one of functional albuminuria. I put the case thus strongly for obvious reasons. To regard a case of chronic Bright's disease as one of functional albuminuria, is to commit the gravest error in prognosis that one can possibly make, and perhaps to lay down a system of treatment absolutely injurious to the patient. While, on the other hand, to regard a case of functional albuminuria as one of Bright's disease, would be perhaps to condemn a practically healthy individual to life long invalidism and uselessness. To those who have to do with life insurance the question is one of the first importance. In making the differential diagnosis the points to be taken into consideration are as follows:—

1. *The Persistency of the Albuminuria.*—The functional forms are most commonly remittent, paroxysmal or periodic, in their manifestations; though in some cases the albuminuria is persistent. In granular kidney, too, it is said the albumen may disappear from the urine for days, or even weeks, at a time. This is a statement which ought to be received with the greatest possible caution, remembering as I said in a previous part of this lecture that you are not in a position to pronounce the absence of albumen from a given specimen of urine until it has been in contact with nitric acid for at least twenty minutes or half an hour.

(*The Quantity of Albumen is no Guide, though one may get a hint by observing it.*—As a rule, in the functional forms, it is usually marked, frequently copious, and not seldom profuse; while in the case of granular kidney it may be only small in amount. But I am quite sure that the statements made in the books in regard to the amount of albuminuria in the different varieties of chronic Bright's disease are quite unreliable.)

2. *The Quantity of Urine passed in Twenty-four Hours should also be observed.*—In the functional forms it is usually normal, while in the organic cases the quantity is seriously affected in many instances. The appearance of the urine as to colour, transparency, and deposit, is usually normal in the non-organic cases, whereas the albuminurias of renal disease usually have some appearance, which to the practised eye suggests some departure from the natural condition.

The density of the urine as a rough index of the solid material, including, of course, albumen, is of the highest value. The functional albuminurias have, of course, a practically normal urine, with albumen in solution. While those of organic disease have an abnormal urine, a urine seriously deficient in urea with albumen added to it. The former are of normal or increased specific gravity, the latter of lowered specific gravity. In cases of doubt the quantitative estimation of urea should always be performed. The examination of the urinary deposit usually shows but little in the non-dangerous forms, except crystals occasionally of oxalate of lime, and rarely tube casts. Tube casts, I may say, to be of serious import, must be in considerable quantity, of considerable size, and more or less constantly present. Of this there seems to be no doubt. Cases of acute nephritis, cases of chronic renal disease, accompanied by obvious dropsy, are scarcely likely

ever to be in question. It is the case of granular kidney, that exceedingly risky condition for operating surgeons and insurance companies, in which the diagnosis has to be made.

To make a case of functional albuminuria then, we require a practically normal urine, having in solution serum albumen. One exceedingly interesting exception to this rule concerning the urine I shall refer to; but above and beyond this we require an entire and complete absence of all the general and local conditions, which go to make up the clinical picture of Bright's disease. An absence of dropsy (with only a slight reservation for cases of anæmia), and absence of all cardiac hypertrophy as manifested by physical signs, and an absence of increased blood pressure, as evidenced mainly by slowness of the pulse, and an absence above all of the manifold conditions which indicate the uræmic state. Lastly, the occurrence of the eye changes seen in albuminuria, specially albuminuric retinitis would settle the question once for all. Still, these functional albuminurias have, or are associated with symptoms more or less their own, aud have consequently been named by various writers: cyclic, periodic, paroxysmal, dietetic, etc., the term being used to indicate the special conditions under which it makes its appearance. Dr. Moxon was one of the first in this country to draw attention to the condition, under the title of "Albuminuria of Adolescents." Perhaps no one case follows completely one special type, the same case being at one time cyclical, at another periodic or persistent. The best observed causes are exertion and feeding. As feeding is itself a cyclical performance, the albuminuria of feeding will also be cyclical in its occurrence; there is nothing very remarkable in that. That which follows the use of certain articles of diet, a rare form, will be more or less paroxysmal, according to the use of the peccant substance. I have under my care, at the present time, a young gentleman, whose case I will briefly narrate, who suffers from an exercise albuminuria. The case illustrates, in a typical manner, the leading features of the condition in question. He is nineteen years of age. Left a public school some two years ago, since when he has been occupied in the office of a large manufacturing firm. He lives in a suburb of Leeds; consequently he rises at 7; breakfasts at 7-30; walks two miles to the railway station; travels to Bradford, where he arrives soon after 9 a.m.; dines at Bradford at 1 p.m.; arrives in Leeds at 7-30, walks to his home, has tea; supper at 9; bed at 10. This is his daily round. The condition of the urine is as follows: The morning urine is always free from albumen, with exceptions to be mentioned. The urine after dinner is always albuminous, as is that passed after tea. I should say that after dinner, and after tea, urine is frequently not passed till some two or three hours after the meal. The morning urine is albuminous when the preceding day the amount of exercise has been excessive. Take his record for the last week for example: on the 6th, 7th, 8th, and 9th, the morning urine was free from albumen, but on the 10th was highly albuminous. The explanation of this is afforded by the fact that on the previous day he had been to the Exhibition at Saltaire, and so was continuously on his feet, standing and walking, from 2 p.m. to 9 p.m. On the morning of the 11th the urine was again free. Now, of course, this patient came to me for certain symptoms, not very definite in character, but which were sufficient to suggest to me the probability of my finding albumen in the urine. He himself was not inclined to make any complaint of his health, but his father sent him to me because, as he (the father) said he seemed apathetic, feeble, and unfit for work, though ill in no definite way. He is a twin-brother, tall and thin, his nose is livid, and cheeks more than high coloured. After walking to my rooms, even when the day is warm, his hands are always blue if he doesn't wear gloves, and he hates cold weather. He is very tired after slight exertion, sits over the fire, and reads rather than play tennis or cricket; takes very little food, and with no relish. There are no signs of cardiac hypertrophy. The pulse is, as you would expect, small, feeble, compressible running at 90 to 100 in the minute. The bowels are confined. In the absence of signs of Bright's disease, I have said that the albuminuria is an index only of his general condition, that it will probably disappear, and that it will not lead to or eventuate in chronic renal disease. The case is certainly a case of adolescent albuminuria, and is also cyclical in its occurrence.

The plan of treatment, which has been attended by such improvement as could be expected in the time, consists in "forced feeding;" the administration of an aloes and iron pill for constipation, and the systematic use of a mixture of hydrochloride of arsenic and perchloride of iron.

A still more striking and interesting case is also under my observation among my out-patients. A woman, æt. forty-two, has for the last twenty years suffered from giddiness, and periodic attacks of shortness of breath on exertion. She is pallid, with a slightly icteric tint, and even as she sits has a shortness of breath very similar to the nervous gasping breathing which little children have when going through their repetition of verses before strangers, sometimes stopping altogether to devote the whole of their attention to a long inspiration, after which they set off again with renewed vigour. There is no cardiac or lung lesion to explain this. She is subject also to attacks of a very remarkable character. If she walks out on a dry frosty day, without having the whole surface of the body, including the hands and face as carefully protected as possible, after a short time her face becomes pinched and ashy pale; the lips thin and tightly drawn; the eyes sunken and glazed; the shortness of breath is extreme, and, internally, painful sensations, very like the shivering of ague, pass over the whole body, leaving behind them acutely painful areas, usually on the right orbit (brow ague) or beneath the left mamma. By experience, she has found that the drinking of large quantities of warm water (on one occasion as much as three pints) soon relieve the condition, and relief is accompanied by the passage of a quantity of urine, very much like strong coffee in appearance. The micturition on these occasions being effected with pains almost as intense as those of child-birth. During the winter these attacks occur with much frequency, but as she has only recently come under my notice, I have not had an opportunity of seeing the urine in this condition. She is, like the former case, subject to dead fingers after washing, and it compelled her to do all her household work, such as cleaning, paring potatoes, etc., in warm water. She is also subject to urticarious eruptions. The black urine is clearly the urine of hæmoglobinuria.

On May 3rd, the urine was loaded with lithates as it always is; sp. gr., 1025, and highly albuminous. May 4th, after dinner, sp. gr., 1018; turbid from lithates; albumen abundant; above the disc of albumen,[1] a "second deposit;"

[1] On this exceedingly interesting appearance in the nitric acid test, see Dr. Stevens's paper in the *Edinburgh Journal*, Dec., 1886, p. 507.

pigment abundant; after tea, the same. May 5th, morning urine free from albumen; after dinner and after tea, albuminous. May 6th and 7th, the same.

In this case, the first attack occurred in 1873, now fourteen years ago, and the patient is, physically speaking, sound. The case is one of paroxysmal hæmoglobinuria, associated with cyclic or periodic albuminuria, more or less persistent. The association of functional albuminuria with paroxysmal hæmoglobinuria is one of extreme interest from a pathological and chemical point of view.

The paroxysmal attacks of hæmoglobinuria are clearly due to the dissolving out of the colouring matter of the red cells into the blood-plasma, and its escape by the kidneys. The products of the destruction of red cells, which goes on in the liver, and other organs, are disposed of in two ways, the colouring matter is worked up into bile and urinary pigments; the globulin into urea or some allied product, and so normally neither hæmoglobin nor globulin appears in the urine; but when, from some cause or other, more red cells are broken up in a given time than can be disposed of in this way, we get increase of biliary pigment, sometimes jaundice, and when the quantities are in great excess, actual hæmoglobinuria. So that functional albuminuria, or *globulinuria*, may be attended by excess of pigment in the urine, which it usually is, jaundice, as in my second case slightly, or by actual hæmoglobinuria, as has also occurred in my case. For this explanation I am indebted to a most interesting paper by Dr. Ralfe.[1]

One other point of great interest I wish also to draw your attention to:—The associations of dead fingers, and blueness and lividity of the extremities with functional albuminuria. The occurrence of dead white fingers, cold clammy feet, chilblains, etc., has long been noted in hæmoglobinuria, and recently the conditions described by Raynaud as local asphyxia, giving rise to symmetrical gangrene, have been found associated with functional albuminuria and hæmoglobinuria. This local asphyxia, or symmetrical gangrene, is no new condition, and its association with hæmoglobinuria was well known to Dr. Druitt, whose classic description of his own case is still the best account of paroxysmal hæmoglobinuria which we possess. This close association, clinically, of conditions which, pathologically, seem so far apart, is one which affords much scope for speculation. The clinical facts are not to be disputed; the pathological basis underlying them is at present involved in mystery. The suggestion that a vaso-motor spasm, or local arrest of capillary circulation, occurring at one time in the kidneys, at another in the liver, and at another the finger-tips, the nose-end, the ears, may account for all the manifestations recorded.

Hæmoglobinuria occurring for the first time excites the gravest alarm in the patient's mind, but so far as I know there is only one case of recent years which has proved fatal. The woman, whose case I have read to you, has suffered for twenty years or more, and, though very wretched at times from the curious dyspnœa, and the restricted condition as to exposure under which she is compelled to live, is, as I have said, physically sound. The cases do not end in death, or in Bright's disease. The patient may, of course, die of accident, due to local gangrene and other conditions. The treatment appears to be the same for all; such restrictions of exertion and feeding as may appear necessary from the history of the case, and the administration of the ordinary strong preparations of arsenic and iron.

[1] *British Medical Journal*, November 27th, 1886, p. 507.

QUASI-HYDROPHOBIA.

By Charles Fox, M.R.C.S.,
Cardiff.

Hydrophobia is a disease of a peculiar interest to every man and a primary one to us, mysterious as it is, baffling cure, quick, and frightful. It seems *sui generis*, it is traumatic, and in one way only, and, in consequence, every person is liable to it at any moment, well or ill, as everyone may be bitten by a dog.

But there is evidently a modification of hydrophobia, or more than one, marked by absence of the symptoms which gives it its name, and therefore incapable of classification under it. These forms of illness, though thus not hydrophobia, more resemble it than any other disease. They are connected (at least accompanied) with the same cause—a bite, and *present a peculiarity as to drinking water*. Hence, there seems to be a class of disease one might call aqua-bibitory. The common characters of such a class of maladies are undetermined as yet, and one can only state these three:—

1. Presence and probable dependence on an animal's bite.
2. Disorders of the nerves.
3. Peculiarity as to the imbibing of water:
   - (i.) Aversion—*hydrophobia*.
   - (ii.) Longing.
   - (iii.) Other peculiarities.

I shall hardly be censured probably for applying, as to the first, the inference *post hoc propter hoc*. As to the second character, there appears a wide variety, so that perhaps one might divide it into—

- (i.) Phrensied paroxysms—in hydrophobia.
- (ii.) Insensibility.
- (iii.) Moody manner and uneasiness.

In the third feature we have the two extremes present as to drinking, which seems remarkable; and it is always water that is the object of a peculiar passion in the mind. Violent aversion is well recognised, but a water-intemperance is a new notion. Thus the mysterious sign of disease after a bite (infected) seems not to be *dislike* of water, but *some* fixed feeling involuntarily present as to this element, and hydrophobia is but one and the most striking form.

Cases of these modified forms are, I suppose, not recorded, as of less moment and recoverable; but we find a hint, in V. Horsley's reference (*ex. gr.*), in a paper on hydrophobia (*British Medical Journal*, June 9th, 1888), to supposititious or non-genuine cases. These are the class he considers that Bouisson cured. And to this class belongs, doubtless, that of the French doctor himself, whose symptoms "most of" them "resembled those of hydrophobia."

In such a class of cases, what is the affection? None that is recognised. Are they to be ascribed to nervous fear, or hysteria? They could not all, if any of them, I think, be so explained. In the case that follows, the patient was somewhat strong-minded, and there was frequent insensibility.

It is proved, then, that a class of cases exist—not hydrophobia, yet analogous. I conceive they belong to the category here described, and of which the following, the only cases I have observed, are instances. They are not otherwise explained, yet they are disease.

Case 1.—E. C——, æt. seventeen, was bitten on January 21st, 1885, "of good nerve" (as I know), but delicate. The same dog had lately bitten five others; the wound was on the left hand, and half an inch long; I cauterized it

after two hours. She was under treatment nearly two weeks, the health being much affected, even to faintings, which she had "not had before." For three years was pretty well, save that at times the spot became sore, and arm had to be relieved by fotûs. But there was never an open sore. Late in January, 1888, the bite began to be painful, and numbness to be felt in it and the next fingers. The arm then swelled, until this was complete, At the infirmary amputation was spoken of, but, owing to the patient's objection only fomentations were used. No open sore. Directly it was "cured," on the evening of February 24th, recrudescent stage began. She had great movement of eyes, some garrulity, sighings, nausea, febricula, thirst, bad headaches, globus hystericus (?) affecting deglutition. 25th was first unconscious and "barked." She had been noted to have mental uneasiness, but always to be calm (as I always saw her)—not irritable, heightening of hearing and sight, no *hydrophobia*, little appetite for food, no illusions, debility, sense of obstacle in throat continually; and at the commencement of the attack she felt the site of the bite sore, and shoulder too, which feelings then left. I found it quite healed, painless, etc., with white cicatrix. After 25th, always had an exacerbation (at first always a fit) at 1 a.m. and p.m., the hour of her first, and on that day she *drank eagerly* and much. The attacks were at first almost uninterrmitted, and then have lasted for two or three hours; again, three have occurred in twenty minutes. By a week's time they had grown very irregular—four or five often coming in succession, lasting three or four minutes each, and then eight or nine hours perhaps elapsing before another. They followed no cognizable cause, and might be isolated or congregated. They were preceded by a feeling of "winding up" in the brain—as she told with her usual clearness and accuracy. They were characterised by unconsciousness, a barking noise, and sometimes also howling, which was often heard in the street, starting eagerly at things, tearing clothes, etc., *with her teeth*, and trying to *scratch* with her hands. As they varied in intensity, so did the signs. In a full attack there would be great pugnacity as well—once for two and a half hours continuously—and she would call perhaps to the (absent) dog, or sing unconsciously; the talk was not nonsensical—about her interment sometimes. It ends, I note, by a sound as of choking and *her drinking*, exhausted. She knows nothing of the fit just over, is chilly, perspiring, and calls for water. It has needed three to hold her in the fits. She would in one hold a cup of water in her hand, but *not* to take it; there was no ptyalism noticed, or change of features, but the eyes were several times closed. At first she could not be brought out of them, but after a week the rubbing of the palms, or water affusion would succeed. She told me her head was worse before and better after, but not always. The bite would be bluish before a fit. Once she woke from sleep and went into a bad fit—a new unconsciousness. At other times she was calm, and feeling nothing but headache and the glottic obstruction; there was no anxious *facies* or stiff neck, thorax, epigastrium, and respiration easy, quiet mien, no hawking. The choking was worst when emerging from a fit, and slowly lessened thence.

On March 4th, rose a few hours; first ate solids. 5th, occasionally free from choking sensation. Pulse generally 78, strong. KBr., Cinchona and Spt. æth. nit. seemed to suit. This day I applied a blister to site of bite (nearly seven hours); after five hours she had an attack for about three minutes, the first into which she subsided half awake. No special feeling at the bite, or apparent effect from the blister. I kept it open, therefore, until 11, but could not drive back the irritation to this, its source. March 7th, fits sometimes occurring in sleep. March 8th, first without "barking"; choking only felt on side of bite. The spasm of glottis in the fits caused a very loud, forcible, high-pitched sound, like "how how!" Pulse would be 114 on emergence, and fall at once to 108.

March 18th, some opisthotonos in the attacks; "stiffness," groaning on emerging; always some fits daily, mostly in evening, near together, often without "barking." Pain in left cheek, and *whole* left side affected; joints paining. Gave ac. phosph. c. pot. brom. and tinct. hyoscy., it seemed with benefit. March 21st, pain in left arm; contraction of left leg on emergence from fit; the bark not always alike. In a fit eyes might be open without her seeing, and *though insensible, she could hear a dog bark and imitate it.* April 3rd, only fifteen or twenty minutes "herself," in fits generally "awful quiet"; *better before and worse after* than formerly; less frequent. April 5th, remarkable somnambulism (never before). Great family trials and disturbances. April 23rd, been up two weeks and working when I called; fits always at least once daily, but much milder. April 25th, last "bark," two months after the first. At end of month fits ceased—*i.e.*, three months from the affection of the arm, and three years and three months from the date of the bite.

Case 2.—Was called to a woman in strange frenzies, apparently of gastric origin, as she suffered much in the stomach. It is probable in her case it was from "drink." Very eager longing for water, and took it almost clutching the vessel, and with a noise. I found, on enquiry, she had been bitten a few days before on the hand—no soreness, etc.—I think by a cat. Not cauterized. Middle-aged. Well next day. Strong person.

Case 3.—A girl I saw at London Hospital, in 1870, æt. sixteen, bitten by a lap-dog eight days before, and well since. Very small bite on left wrist. Cauterized, and she became feverish and flurried. I noted increase of temperature, decrease of temper, watchfulness, restlessness, speaking gravely and slowly on trivial subjects of little pertinency, but not "wandering," long talks, and melancholy. No difficulty in drinking, but expressed to me *a wish to have only cold water.* J. Hutchinson, as I also noted, thought this not hydrophobia, but evidently an incipient phase, say of typhoid. N.B.—Here there were no "barking" or fits, and I found she had been in service (hard), and rather strange in mind.

Case 4.—A police case has just come to notice of a large, strong man, at Newport, "thirsting" (as he said) "for blood," attempting suicide, and very excited. Five constables had to hold him, and it is believed he has drowned himself, having escaped. The only cause we hear of is that he was bitten by a dog a month ago on the nose, and hence he barked in his frenzied states—though this is not supposed to be the cause. I think it to be.

Case 5.—This illustrates the supervention of alarming illness upon the healing of a local ulcer. E. C——, a butcher had had obstinate, bad ulcers, and was cured of them by a "quack" at once, after sixteen years. He very soon died, hydrophobic.

Case 6.—J. F——, always a strong man, breaking his leg, received a wound in the heel from an iron in the cradle it hung in. After being tortured long, he was relieved by his wife, and the surgeon found it mortifying.

It discharged for six months. Directly it dried he began to feel a choking, which went on until in eighteen months he died of some growth in the throat, æt. sixty-four.

There are some very interesting features in Case 1 in respect to Heredity. The old father (of *odd* mind, and whose father was insane) was bitten when in petticoats on the ear, and a younger brother has also been bitten. I know a family, also, in which father, mother, son, and daughter, were or are all uncommon subjects of perils and fearful escapes, and the family consisted of these four. In all but the son they were generally by horses. Here many will see coincidence; but "coincidences" are *really* explicable, being accounted such from our ignorance of some field of causation. Since there is no chance, there must be *some* law in everything, making it befall as it does. So, as I have known hernia to be hereditary sometimes, here the other "accident" of being bitten seems so. To regard it physiologically, there are states of blood or temperament selected by fleas; the same may explain an obnoxiousness to mad dogs, or other contingencies. Such a theory would find support in the fact known to me of both father aud son losing their lives at different times by horses, being doctors who drove. We know little of occult laws and deeper causes, which may descend. The case of E. C—— also illustrates the law of Periodicity, which we are finding now to have a wide application or sphere. The father feels the spot sore at the season he was bitten even yet, and the teeth-marks are then to be seen. He has been in bed two days from the malaise caused. In E. C—— herself we saw that the attacks at first observed, every revolution, the hour at which they began.

AN ENQUIRY INTO THE CURRENT THEORIES OF THE CAUSES AND NATURE OF ACUTE RHEUMATISM, AND THE TREATMENT GENERALLY ADOPTED FOR ITS CURE.

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(*Continued from p.* 21.)

TREATMENT.

The subject of treatment now demands our attention, and presents itself under a variety of aspects and conditions; truly there is not another member of the nosological series for which a greater number, or more diverse remedies have been assigned, or with more variable success. Every curative agent, whether topical or general, suggested by its physiological action on the system, in the round of scientific therapeutics has been tried, and even outside the circle of rational medicine the aid of utilitarian empiricism has been invoked in the search for a reliable specific for acute rheumatism. Nihilism has countered with polypharmacy in indecisive combat, acids and alkalies, venesection and quinine, mercury and mint water, hot blankets and the cold pack, cotton wool and ice-bags to the joints and spine, opium and atropine, hypodermic injection of cold water and of carbolic acid into the affected joints, aconite and veratrum viride, subcutaneous injection of morphia and the peripheral blistering of Davies and Dechilly, and finally, the most fashionable, though least reliable of all, salicine, salicylic acid, and its compounds, have each had their enthusiastic advocates; and after all, the statement of Fuller is as applicable as when he announced, more than a quarter of a century ago, "that each and every plan of treatment which has hitherto been proposed, is regarded by the profession as unsatisfactory," and that of Garrod is equally well founded—viz., "that further observation and experiment are required before we can arrive at any satisfactory conclusion with regard to its pathology."[1] Senator also declares "that no remedy has, up to the present time, established its claim to universal favour, none has been discovered to possess undoubtedly specific virtues, to be capable of summarily arresting the disease under all circumstances."[2] Of this heterogeneous mass of remedies and *pseudo* specifics, it will suffice for my present purpose to review the expectant plan of Gull and Sutton, the joint blistering, the alkaline, and the salicylic or palliative methods of procedure.

Sir William Gull would seem in practice, if not in express terms, to have classified rheumatic fever as a specific form of continued fever, marked by a stage of growth, maturity, and decline, looking on as in typhus or typhoid for a natural termination at a determinate period, by crisis or lysis, trusting solely to the *vis medicatrix naturæ*, and not attempting by medical agency to interfere with or shorten the course of the disease. While doubtless the moderate success of the *laisser faire* treatment has enabled Sir W. Gull to fulminate an emphatic protest against the perils of meddlesome polypharmacy, he has not succeeded in commending his peculiar procedure to public acceptance: the result of his experiments has shown that (as compared with the alternative plans of lemon juice or alkalies) its effect, whether in the acute stage, or on the malady as a whole, has been to prolong its duration; while it has no more favourable results to show in the prevention of cardiac affections, the acute stage, according to Gull and Sutton, lasting under their plan for 9·1 days, 8·4 under the blistering, 6·73 under alkaline, and only 6·8 days under lemon juice treatment, the total length of the attack under alkalies being 13·5 days, when otherwise treated 19 days, the cases left entirely without medical treatment lasting longer than any of the rest. Sir William Gull's late remarkable denunciation of pharmaceutical remedies, and his advice in the treatment of disease, "to throw physic to the dogs," and trust to blankets and rest in bed, is hardly justified by his limited success in the cure of rheumatic fever. Consequent on the acceptance of the *materies morbi* and lactic acid hypothesis, and suggestive of an eliminative or evacuant method of treatment, the joint blistering plan of Dechilly and Davies, foreshadowed by Todd, was recently much in vogue, and may possibly still have some adherents. Davies insisted that the rheumatic poison was especially plentiful in the vicinity of the affected joints, and that by his treatment it was separated with the serum of the blister, and thus removed from the system. But apart from its want of success, the application of cantharidian plaisters over a multiplicity of joints was very objectionable, and not without danger of inducing strangury and even cystitis, and the slight corresponding improvement was not found in practice to compensate for the burning pain and discomfort superinduced immediately over or in the immediate neighbourhood of the inflamed synovial and fibrous membranes, ligaments, and joints.

Gull and Sutton, as reported in the *Medico-Chirurgical Transactions*, state that any more than lemon juice or alkalies, blisters do not shorten the course of the rheumatic

[1] Reynolds, vol. 2, p. 904.

[2] Ziemsen, vol. xvi., Art.—*Polyarthritis Rheumatica Acuta.*

fever, and though they may lessen the pain, they do not prevent the occurrence of heart disease; and Senator testifies "that having seen the blistering treatment repeatedly carried out in the wards of the Berlin Charité, without any result beyond a slight and only temporary diminution of articular swelling, and transient fall of temperature; he never saw the blistering cause any change in the state of the urine, and the other effects were not more brilliant than those produced by other modes of treatment. The simultaneous application of a number of blisters is not without its drawbacks; strangury is not a very uncommon result, and the urinary irritation may even be intense enough to culminate in a fibrous inflammation."[1] J. Mitchell Bruce writes, "that although the blistering plan of Davies relieves pain, statistics show that other methods of treatment are more efficacious in shaping the course of the disease and lessening the tendency to cardiac complications. On the other hand the danger of strangury, sloughing, and even pyemia, and the substitution of another severe form of pain for that dispelled, must be mentioned as objections to its employment." And Bristowe likewise protests that, "while blisters give immediate and marvellous relief to the pain of the inflamed joints, they do not cut short the progress of the inflammation which they relieve, and have no influence whatever on the general progress of the rheumatic attack." And as a matter of fact, the assumption upon which this eliminant plan of treatment is propounded is absolutely without foundation, as I have often demonstrated, and as anyone can satisfy himself, that neither acid nor any other abnormal product is discoverable in the blister serum of rheumatic patients, whether obtained from the articular or cardiac regions; and even Senator, writing on this point, declares that "this plan failed to render the urine alkaline, and that if any poison was thereby removed from the system, it was not an acid, as the serum produced by vesication was invariably alkaline."

Since the days of Furnival and Prout, nearly fifty years ago, until the introduction of the present routine treatment of acute rheumatism, the alkaline, or, more properly, the saline method of treatment, had held sway, and dominated over the other therapeutic plans; based upon the central idea of the alkali potassium, the salts of potash, such as the bicarbonate, acetate, citrate, nitrate, iodide, bromide, and tartrate have been administered, separately and in combination, and with results, as we are informed, satisfactory to the prescribers. Liquor potassæ in half drachm doses, to the extent of six drachms daily, has been given by Parkes, Brocklesby has given 10 drachms of the nitrate dissolved in water gruel, in twenty-four hours, with advantage, and when the strictly saline formula is adopted, a solution of the combined salts of the bicarbonate, nitrate, and acetate of potash is given in such doses that 12 drachms of the mixed salts may often be taken in one day; the leading idea being to introduce into the system as rapidly and as effectually as possible, large doses of any salt, of which potassium forms the base. The same principle appears to actuate Dr. Austin Flint in ordering baths saturated with the salts of potash for his rheumatic patients. Evidence as to the curative efficacy of the saline treatment is somewhat contradictory; Sir Thomas Watson states that alkalies prolong convalescence, and Gull and Sutton, while not challenging the statement that alkalies and blisters may relieve pain, deny that they shorten the disorder, or prevent the occurrence of heart disease. Bartholow says "that alkalies cannot oxidise uric acid in the blood, their administration makes the urine neutral, or alkaline with uric acid diminished and urea correspondingly increased." On the other hand, Roberts in his "Theory and Practice of Medicine" states that "a tolerably extensive experience has convinced me that good results frequently follow the alkaline treatment. Whether the treatment shortens the course of the disease or not it is impossible to say, but it certainly appears to exercise a beneficial effect on the joint affection, and my belief is that alkalies are decidedly useful in preventing and relieving the cardiac complication; the bicarbonate of potash is the preparation I usually employ."[1] J. Mitchell Bruce, in Quain's "Dictionary of Medicine," announces his belief that in alkalies a direct antidote exists to the morbid influence, but that the greatest care must be taken lest their exhibition should be overdone.[2] Furnival, quoted by Senator, treated fifty cases by alkalies without the heart being implicated in one of them. Dickinson, too, had but one case of heart disease among forty-eight patients thus treated, and thirty-five in 113 treated otherwise; Fuller in nine only out of 417 cases under alkaline treatment. According to Aitkin the alkalies should be given largely, and in justification of this advice and the liberal administration of alkalies and salines, he quotes Stevens, who states that it has now been abundantly demonstrated that in cases of acute rheumatism there is an absolute deficiency of the saline ingredients of the blood; and while there is also a liability to fibrinous exudation, the tendency of saline remedies is to suspend the separation of fibrine.

This recommendation to push the salines reminds one of Sir Thomas Watson's witty remark in reference to the liberal intra-venous injection of salines in Asiatic cholera: "Certain practitioners maintained," he said, "that the disease was to be remedied by introducing into the system a large quantity of neutral salts, which were to liquefy the blood and restore the function of the circulation. But of this practice it was said, that however it might be with pigs or herrings, *salting* a patient was not always the same thing as curing him."[3] However, undoubtedly the balance of testimony is in favour of some important advantages being derived from the alkaline or saline treatment; and when its advocates can boast that the patients lose their pains under its influence, and proceed rapidly to convalescence; that the pulse is generally tranquillised within forty-eight hours from the commencement of treatment; that its good effects in warding off cardiac affections are certified to by such eminent authorities as Fuller, Garrod, Basham, and Goodfellow, as well as the shortening of the illness,[4] one might be pardoned if he expressed his wonder that with such a favourable record, and with a plausible hypothesis to encourage them, they should vail their flags in presence of the apostles of a new dispensation, who with every evidence of the co-existence of organic disease in the majority of cases, only take cognizance of functional or subjective troubles; who ring the changes on pain and pyrexia, pyrexia and pain; whose main dependence is an empirical drug, the product of the laboratory, a so-called specific; and while taking credit through its agency in relieving pain and fever, openly acknowledge that the drug has no influence whatever in preventing or relieving heart

[1] Dr. Quain's "Dictionary of Medicine." Article *Rheumatic Fever.*

[1] Article *Acute Rheumatism*, p. 239, 6th edition.
[2] Article *Rheumatic Fever.*
[3] *Vide* Watson's "Practice of Medicine."
[4] Aitkin. "Science and Practice of Medicine."

affections, the principal source of danger in rheumatism; that it retards recovery, and predisposes to relapses; that it leaves its victims weak and anæmic; that it is powerless in the prevention or cure of hyper-pyrexia; and that its administration, even under the most careful supervision, is followed too frequently by most lamentable results—syncope, delirium, and death itself.

The palliative plan of treatment by salicine and the salicylates, now on the wane, has enjoyed for more than a decade the distinction of being the fashionable remedy, and has during that time left a very diversified record of its operations. Never rising to the dignity of a curative measure, it has addressed itself to the humbler *rôle* of treating symptoms; and while pleasing the patient by soothing and lessening his feelings of discomfort in those organs in which pain and inflammation go hand in hand, has minimised or overlooked the importance of inflammation in the vital organs, where pain is merely of incidental occurrence, and from injury to which a fatal result is only to be feared. As Sieveking very properly observes: "Even the tyro in medicine can scarcely help being struck by the circumstances observable after a very brief clinical study, that pain and danger are by no means commensurate. They often appear to occupy an inverse ratio to one another. Many of the most fatal diseases run their course almost without pain; while, on the other hand, long-continued suffering may stretch the patient on the rack without materially abridging life. Our daily experience shows us how, but for the indications afforded by the stethoscope and other means of objective examination, the localisation of disease is impossible, and the patient has no subjective symptoms to adduce but that of general malaise and weakness. There is a marked difference, for instance, between endocarditis and pericarditis (and he might have added, arthritis) in the relative amount of pain which each entails, inflammation of the pericardium ordinarily causing the patient to draw the physician's attention to the part; while, as a rule, the stethoscope alone can detect the inflammation that affects the lining membrane of the heart. What a practical demonstration is this of the advantages of a thoroughly scientific education, that shall lead the medical man to depend upon himself rather than to be guided by the mere symptomatology which shall be indicated by the patient's feelings."[1]

After being experimented with in Germany the salicyl treatment was introduced into this country by Dr. Maclagan, who then assured us "that it seems to arrest the course of the malady as effectually as quinine cures an ague, or ipecacuanha a dysentery; that, given sufficiently early, and in sufficient doses, it prevents cardiac complications, and that its free administration is the best means of staying their progress after they have occurred." With this assurance, and its evident power over pain, it became almost universally prescribed in acute rheumatism. The contrast is remarkable when we compare the opinion of the same authority, founded on six years of practical experience of the drug, on the occasion of a discussion on the salicyl treatment, by the leading physicians of the metropolis, at a meeting of the Royal Medical Society on December 19th, 1881: "Practically," Dr. Maclagan says, "we have to deal only with salicine and salicylic acid (generally given as salicylate of soda). Salicylate of soda is most used, but no one who has used it much can have failed to notice its deleterious effects on the system. Many instances have been recorded, and their number has been swelled in almost every journal that we read, in which more or less disastrous effects have been produced by it—delirium, insanity, prostration of the vital powers, syncope, and even death. Salicine is equally powerful as an anti-rheumatic, but it produces none of the deleterious effects of the salicylates. Whether or not the salicyl treatment of acute rheumatism diminishes the frequency and danger of heart complications is a point on which I have not time to enter. I believe that to some extent it does, but I believe also that when these occur the treatment by salicylates of soda occasionally increases the patient's danger. I refer more especially to those cases, more numerous than is usually supposed, in which the muscular substance of the heart is the seat of inflammation; if to this enfeeblement is added the administration of salicylate of soda, the patient's condition is thereby rendered more serious, and the continued administration of the salicylates might turn the scale against him. Hyperpyrexia is no essential part of the rheumatic process. All evidence shows that it is not at all benefited by the salicyl compounds; they are quite inoperative in it." What a difference between the two pronouncements! Dr. Maclagan's admissions are, however, very creditable to his candour. The risk attending the use of the salicyl compounds has been generally recognised by his professional brethren; but the differentiation which he would wish to establish between the effects of salicine and the salicyl salts has not been as well received. One good result has come of this very necessary caution—the remedy is not now so promiscuously prescribed, and its effects on the heart and nervous system are more narrowly watched.

There is, too, a great divergence of opinion regarding the method of administration, arising from opposing views of the etiology of acute rheumatism. Dr. Maclagan, believing in the malarial origin, and regarding the rheumatic virus as a veritable entity, prescribes the drug as an antidote, for the avowed purpose of destroying the poison, and deprecates the production of the constitutional, the toxic effects on the nervous system; while his most prominent follower, Professor Latham, from the *materies morbi*, the uric acid point of causation, gives distinctly opposite advice. In rule 3 of his code he directs: "Place the patient freely under the influence of the drug, that is, let him have sufficient to produce cerebral disturbance, *i.e.*, buzzing in the ears, or headache, or slight deafness; with the development of these symptoms the temperature and the pain will begin to decline, but, as soon as the formation of the *materies morbi* is stopped, its peculiar physiological effects are developed. Acting as an antidote, the greater the amount of the poison, the larger must be the amount of the remedy. He concedes, however, that if pericarditis, endocarditis, pneumonia, or pleurisy have been developed the remedy is powerless. Its use requires caution. You cannot tell when the system is saturated with the remedy, and you must therefore trust to smaller doses and other remedies for controlling the disease."[1]

During the important discussion referred to previously the majority of the speakers appeared to attach importance to the salicylates, and the conclusions formulated by Dr. Sydney Coupland may be taken as embodying those of the members present. The most important of these conclusions are: 1. That in the majority of cases salicylate of soda speedily reduces the pyrexia and articular pain of acute rheumatism.

[1] *British Medical Journal*, February 9th, 1867. Sieveking on "The Etiology of Pain."

[1] Croonian Lectures, 1886.

2. That no definite influence on the cardiac or other complications can be observed, and that, indeed, both pericarditis and endocarditis may develop while the patient is under its influence. 3. That the toxic effects are serious according to the largeness of the dose.

The contribution to the discussion by Dr. J. Gilbert Smith, of the London Hospital, is worthy of the highest consideration. He admits that ample proof has been adduced by previous speakers of the power of the drug to reduce pain and temperature, and arthritic inflammation, but it has not been shown, he continues, that the stay in bed has been materially shortened, or convalescence hastened, and relapse, in place of being prevented, is more frequent. He asks the pertinent question: "So long, then, as these latter points remain as they are we may ask, Do the salicylic compounds *cure* rheumatic fever, or do they merely prevent certain of the manifestations, arresting them as opium does pain, while the disease itself, or its specific virus, remains in readiness to demonstrate its activity on the first opportunity?" His next query: "Is there any evidence afforded by hospital statistics to show that the cardiac complications of rheumatism have been in any way affected by the introduction of the salicines? The importance of the question," he says, "is apparent, seeing that the chief element of danger, present and future, is imparted to it by the great liability that exists to inflammatory processes in and around the heart. And, if as affirmed, the salicyl compounds actually *cure* rheumatic fever, we may then reasonably expect that the occurrence of cardiac complications may be mitigated, if not altogether prevented, or, if such has actually taken place, that its progress may be showed and its perils abated and arrested." And Dr. Fagge, also, in his valuable remarks, expressed in equally strong terms a similar expectation of its being likely, naturally, to control the development of an analogous process in the heart.

With a view of elucidating these doubtful questions, Dr. Gilbert Smith prepared a number of tables of hospital statistics of cases treated in the principal London hospitals in reference to the incidence of heart complication in the pre-salicylic era, as well as of similar cases of acute rheumatism treated subsequent to its introduction.

Table I. presents a classical series of cases treated in the years between 1876 and 1882, in all, amounting to 1727, of which 940, or from fifty-two to fifty-four per cent., were so affected. Table II. gives the number of cardiac attacks *subsequent* to the introduction of the salicyl treatment, which comprised 1748, of whom 1109, or sixty-three to sixty-four per cent. presented heart complication, or against fifty-four or fifty-four to sixty in the previous table. Table III. shows the amount of cardiac complications in primary attacks, and out of 629, 381, or sixty per cent. were so affected. Table IV. gives similar statistics of 533 cases treated by the salicylic compounds alone, and it also exhibits the highest percentage of cardiac complications—viz., sixty per cent. From the consideration of these tables, Dr. Gilbert Smith says, in conclusion, "That, notwithstanding, our expectations based on the good effect of the salicyl compounds in several of the marked features of rheumatic fever, there is no evidence, so far as hospital statistics are concerned, to show that the introduction of the salicylic treatment has led to diminution in the amount of cardiac complications in acute rheumatism."[1] The contrast is very striking when we compare, with these tabular returns, the statistics of Dr. Dickinson, showing the power of alkalies in preventing and controlling the occurrence of heart affections in the same disease.

Coming to a more recent date, we must not forget that Dr. W. H. Broadbent, from the presidential chair of the Clinical Society of London, at its meeting in January, 1887, considered that it was his duty to raise a warning voice against the promiscuous or routine administration of antipyretics, especially of the salicylates, salicine, salicylic acid, and its compounds, and the danger accruing of present injury from their employment. It is a tremendous piece of knowledge, he said, that a given drug will certainly lower the temperature, but this does not by any means warrant its indiscriminate administration in pyrexia. There is the further question, by what process the temperature is reduced, and what concomitant effects are produced? There is positive peril in acting simply on the knowledge that the temperature can be lowered. Are we certain, to begin with, that a high temperature is always mischievous? May we not, in checking it, be interfering with defensive or readjusting processes? Are we to assume that nature does not know what she is about, when she sets the heat regulating mechanism for a higher level whenever things go wrong in the economy? Even with the employment of salicine and salicylates in rheumatism—remedies which come straight to us from the laboratory, and whose mode of action is expounded in chemical formulæ by Dr. Latham—I think it will be well to raise a warning note. Properly employed salicine and the salicylates almost rob acute rheumatism of its terrors and dangers, but, given in routine fashion as we should give an effervescing mixture, they have seemed to me to be capable of doing serious harm. At any rate, I have seen deaths in rheumatic fever of a kind quite new and strange to me, after prolonged administration of salicylate of soda every four and six hours. The pain and fever had never yielded; the drug had been continued in hope of this result, till, in course of time, warning was given by delirium; the pulse became more frequent and extremely weak. What has looked like a modified hyper-pyrexia has set in, with flushed face, and hot perspiring skin, and the patient has rapidly sunk, the temperature, however, never rising above 105 Fahr. I come back then to my point, that in order that we may employ antipyretics, or remedies, of any kind with confidence, we must know exactly how the effects produced are brought about; the chemical changes which attend and condition the evolution of nerve force and muscular action; the modification of the clinical processes which result from the administration of the drug; and the change in the composition of the drug itself, through which the energy is evolved by means of which it produced its effects.[1]

Coming to a still later period, April, 1888, Dr. Hood's contribution, entitled, "The Treatment of Acute Rheumatism," with special reference to the use of salicylates, and read before the Royal Medical Society of London, bring up the consideration of the subject almost to the present day. The paper is important, both from the number of patients treated in two of the largest metropolitan hospitals (Guy's and Bartholomew's), and from the nature of the conclusions arrived at, after due consideration, the dose in almost every instance being uniform—viz., twenty grains of salicylate of soda, every one, two, or more hours. The effect on the joints was, that in many cases patients experienced a

[1] *Vide Lancet*, January 28th, 1882, p. 187.

[1] Dr. Broadbent, *Lancet*, January 28th, 1882, p. 138.

marked and rapid or total cessation of pain, with equally rapid fall of temperature; of 728, 528 lost their pains in five days, but with a heavy list of 137 relapses; out of 515 in St. Bartholomew's, 300 were completely relieved in three days, with forty per cent. of relapses. The illness following relapse being of a more intense character, and higher temperature than in the initial attack, and in most cases combined with cardiac mischief. As to the frequency of cardiac lesions, considering the cases in aggregate, slightly over sixty per cent. were affected; while of the cases treated without this drug, slightly under sixty per cent. were affected. Practically, these percentages confirm the impression that the salicylates have no effect whatever in either reducing or limiting the intensity of the cardiac inflammation occurring during the course of acute rheumatism. The author stated from his own study of the matter, that dangerous symptoms occurred in many cases when the temperature had fallen to normal, and the pain had completely subsided. In these cases, furious delirium ushered in hyper-pyrexia, with fatal results—nine cases of such being detailed. As a proof that the drug had been given in these cases in sufficient quantity, he stated that in one, fifty grains of salicine had been given every hour; in another, twenty grains of salicylate of soda every hour for two days, with relief of pain and fever, and yet hyper-pyrexia occurred when under these large doses. Again, this alarming symptom disappeared in other cases when the dangerous drug was discontinued. In some cases, even when given in very small doses, toxic results occurred, having produced a grave state of cardiac depression.

Patients treated thus are peculiarly liable to delirium; while, according to Senator, acute rheumatism is rarely complicated even with mild forms of delirium. A careful study of a large number of cases could not in any way support the view that in salicylates were to be found specifics for acute rheumatism. If specifics, they should have an antagonistic influence over the complications, as well as the pain. Endocarditis, pericarditis, and pleurisy, are as much the results of the disease as swollen and painful joints, and as such should be directly influenced by the remedy, but such is not the case: these complications appear when the patient is under the influence of the salicylates. He considers that in sthenic attacks salicylates may directly benefit the patient; in subacute attacks they may act as anodynes with tonic and general treatment; in the nervous class, with tendency to delirium, they should be given with great caution, and are often highly dangerous. When the attack is complicated with the severe forms of cardiac or pulmonary inflammation, it is advisable to discontinue their use.[1]

I shall conclude by a reference to an article contained in "The System of Practical Medicine," by American authors, vol. ii., written by Dr. R. Palmer Howard, of McGill University, Montreal, and I shall adopt the words of the reviewer in the *International Journal of the Medical Sciences*, January, 1886: "In the section on treatment the use of the salicylates is discussed at length, and the author's conclusions may be thus summarised: The articular pain and the fever are more or less speedily removed, relapses are more frequent—probably much more frequent under this than the old modes; the salicyl compounds do not arrest or control the rheumatic inflammation of the endo- or pericardium, though on this point therapeutists are divided. Hyper-pyrexia is not always prevented; the average duration of the disease is not very materially lessened; indeed, there is some evidence that the salicylate treatment actually prolongs the time spent in hospital. And, lastly, there are often serious effects from the use of the drug. In reading this careful analysis, in the preparation of which the whole range of medical literature has been laid under contribution, we confess to a feeling of sadness—'another therapeutic dream dispelled;' and ten years ago we were full of hope that in the salicylates a specific had been secured. However, we are daily gaining information as to the cases in which the salicylates are really valuable, and ascertaining the causes of failure.

[1] *Lancet*, April 14th, 1888.

OBSTRUCTION TO NATURAL LABOUR BY THE TWISTING OF FUNIS ROUND THE NECK OF THE CHILD.

By Thomas M. Dolan, M.D.

Tardy labour caused by this complication is, I believe, more frequent than is generally imagined. In our text-books and general treatises this cause of protracted labour is generally only cursorily alluded to. Though we have an excellent paper contributed to the Obstetrical Society by Dr. Matthew Duncan, "On Shortness of the Cord as the cause of Obstruction," my notes may serve the useful purpose of confirming his evidence, and may help some junior practitioners by again directing their attention to this cause of delay.

Fig I

My attention was drawn to the subject in 1865 by an old and experienced general practitioner, and since then I have had repeated occasions of verifying the prognosis, that the cord was twisted round the neck of the child (fig 1 and 2); hence the delay in the determination of the labour. The class of case in which a prognosis can be formed may be briefly described. Natural labour progresses favourably until the head is brought well down. We have every reason to believe that a speedy termination will take place. The presentation is natural; the pelvis roomy; there is no

obstruction; the maternal passages are in a soft dilatable condition. The pains continue, but progress is slow. Hours may elapse without termination of the labour. Then a more violent pain comes on; the child is expelled, its expulsion being followed by a free discharge of blood. The

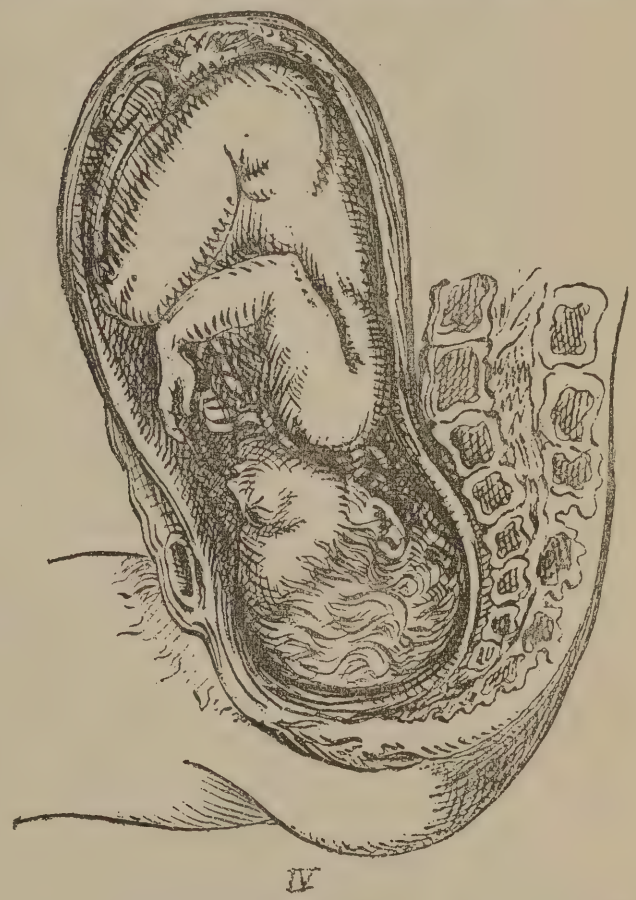
FIG. II.

cord is found twisted tightly round neck of child. Some trouble will have to be undergone to overcome asphyxia of child. The mechanism is simple. The tension of cord has kept the child back; the resistance at first has not been

FIG. III.

sufficient to separate placenta; but this at length in the class of case I am describing does take place. At last the child is expelled, and we have a gush of blood following on the partial separation of the placenta.

The degree of stretching a cord will undergo depends very much on thickness of cord. The degree of strain will also depend on many conditions, such as position of placenta. With a long cord and placenta attached to fundus, as in fig. 3 and 4, a slight degree of tension of cord would keep the head for a long time in one position; labour would be slow. Sometimes the cord is coiled round the neck; but so long that the head may be born; here there is danger of asphyxia, and it may become necessary to cut the cord, taking due precautions against loss of blood.



IV

If we look at the drawings we shall see that if the placenta be attached to the fundus, the child will be swung, and that in proportion to the strain, so will be the gradual tightening. The question might be put in mathematical form; but owing to the uncertainty of one factor, it cannot be solved. The question is the amount of pressure necessary to overcome resistance caused by twisting of cord round the neck, with placenta in the fundus position, and the measure estimated in foot pounds. We can estimate tolerably accurately the pressure of a labour pain, but the difficulty is as to the stretching power of the funis. Experiments on the cord after birth are not of value, because we are dealing with dead matter; and in this dead state we can stretch it by a gradual application of weights until we reach the breaking point. This varies very much even in the dead cord. This is only of theoretical interest. The practical points are:

1. *Diagnosis.*—This, I believe, can be readily made.
2. *Treatment.*—The natural pains are generally sufficient

to overcome the obstruction, if time be allowed, but help can be afforded by the application of a firm binder, or manual application to the fundus. In some cases the forceps may be required, as it is to be remembered that the child's life is in jeopardy owing to the contingency of long-continued pressure.

NEURASTHENIA—TRUE AND FALSE.

DIAGNOSIS AND MANAGEMENT.

By Andrew Scott Myrtle, M.D.

Every one who, like myself, has been in regular practice during the past forty years, cannot have failed to have marked the steady, ever-growing number of neurotic patients demanding our attention. This evolution constitutes one of the most striking among the many changes in the types of disease which have taken place during this most eventful period. Not only has there been a great increase in the number of this class, but the symptoms have become more and more urgent, varied, and complicated, often proving beyond our comprehension and control, and sometimes passing from mere functional disorders to organic changes of vital consequence, notwithstanding the amount of light which scientists have recently thrown on all nervous affections, whether central or peripheral. In evidence of the growing importance of this class of patients, permit me to direct your attention to some remarks made by my old friend, Sir James Crichton Browne, when he presided at the second anniversary of the Neurological Society, not quite a year ago. After showing that increase of knowledge—civilisation, in fact—led to a division of labour, and *that* to specialism in every vocation, he said "that the diseases of the nervous system—which were certainly very complex, very obscure, and very varied; which required to be investigated by special methods and special instruments, and which had, constantly, light thrown on them by physiology on the one hand, and psychology on the other—constituted a natural and real speciality in medicine, which might well demand the undivided attention of a group of physicians." He further added "that the nervous temperament was in the ascendant," and predicted that "nervous diseases shall be the diseases of the future," by which I understand him to mean, not that these shall be the only diseases that the coming race shall suffer from, but that we practitioners of to-day, and especially those coming after us, must take into consideration the influence of the nervous system, and in dealing with disease, whenever found, or in whatever structure, make due allowance for that influence. The best proof of the rapid growth of health derangements having this as a factor is to be found not in the words of our distinguished associate, but in the fact that a Neurological Society has been formed, and numbers among its ranks some of the leading minds of the day. On this account I felt inclined to read the following remarks at one of their meetings, but on second thoughts I determined to bring the matter before this great representative gathering, and so procure a general hearing as well as the experience of the rank and file of, as I may term it, the profession.[1]

The term Neurasthenia is, I think, nosologically correct, and defines the actual condition of its subject. It has been accepted, for long, by us with one dissentient, as far as I know, and the term neuro-kinesis, suggested by the late Dr. de Bert Howell, would be no improvement for the best of all reasons. "Shock," as I understand it, and as far as my experience goes, is a most unusual cause of this form of breakdown; for as the stone is frittered away by the constant drop dropping, not by the sudden gush, so neurasthenia is, in the great majority of cases, the result of a slow, silent, ever present worry, often introspective, known as well as felt by its victim only. As I reject shock as a common cause of true neurasthenia, I also reject hysteria; whilst I admit that hysterical bursts are sometimes seen, they are neither frequent nor characteristic. The true neurasthenic often showing a marvellous power in suppressing all emotional manifestations, and bearing the heavy burden of her own incapacity in a spirit of resignation, and without complaint, making one, again and again, wonder at the magnaminity displayed by such frail creatures, as well as at the purity of their minds and gentleness of their ways; and it is with the greatest pleasure that I now bear witness to the fact that among *them*, I cannot recall a single case where the lower nature, the sexual, has had any place or power in the production of this form of nerve failure.

The loss of power such as I now speak of comes on gradually—does not observe any regular course. In its approach it is often unheeded by patient, friends and medical attendant. The ordinary duties of life are followed; the fulfilment of such, however, becomes, each day, more and more difficult. Mind and body go hand in hand in their downward career, and at the end of weeks, months, it may be years, and after a gallant struggle, both show signs of distress. Muscular efforts become more and more forced and painful. The special senses become more and more intolerant; light offends; sounds, the slightest, disconcert. Sometimes the merest touch is resented, the mind less and less capable, the patient soon ceases to take an interest in the world outside, and longs for solitude and rest. With all these we may have vague flying, or severe localised neuralgic pains, yet no apparent interruption in the performance of the various functions. The body may be as well nourished. Food with stimulants and tonics may be given, and taken abundantly, still strength does not return. Somehow the main spring of life has lost all power—has become bankrupt and can no longer supply the vital force necessary for active existence. On enquiry you will generally find that this condition has been preceded by one of heavy and uninterrupted responsibility—watching night and day by the sick bed, anxiety, worry, domestic troubles and bereavement. The prostration is not only complete, but continued. We have no glimpse of sunshine here; never find the patient able to do a good deal one day, and nothing for a month. We may find she suffers much less one day than another, but we never find that she can do much more, and if by advice of injudicious friends, or of her own accord, this is attempted, the result is disappointment and suffering. Sickness often persistent, intense pain in head or spine, general irritability with febrile symptoms, sleeplessness, palpitation, and often what is worst of all, the fidgets. We have no sham illness to deal with here, but one of the most difficult clinical problems to solve. The late Dr. Jephson, of Leamington, made more than one serious mistake in attempting this. With all his knowledge of human nature, all his experience of faddy fashionable women, he failed to realise, that without any visible sign of disease—nay, in one whose face and figure, whose outer shell, in fact, showed neither flaw

[1] This paper was written for the meeting of the British Medical Association last year, and was among those "taken as read."

nor crack, the strings of the instrument which should have given it, all its power and sweetness had snapped—and left the body as incapable as a locomotive without steam. If you study such a patient you will find her most anxious, most willing to do, and take everything you recommend; showing such faith in your plan, that she will try and do more than you have asked her, fancying thereby to advance all the more rapidly towards recovery. You will find her exhibiting a certain amount of unselfishness and consideration for others, and whilst most grateful for kindness, often showing a sense of heartfelt regret at the trouble and expense her condition necessarily entails. These, I think, you must admit are strong proofs of her own honesty of purpose, and that here we have no perversion of the ego, but a total collapse.

I now come to what I call False Neurasthenia. Here we find symptoms, in every respect, similar to those of true, and it will take you all your time and patience, as well as tact, to detect the sham from the real. If you hark back a bit, you will find that as a child she showed temper; was wayward; as she grew, she became fitful, hysterical, and given to the sulks; craved for sympathy, and exhibited little or no sympathy for others. On questioning her, she describes her sufferings in forcible language. She can neither eat nor sleep; has not an atom of strength; suffers from the most dreadful pain, most fearful headaches, and frightful spasms; and should you suggest any portion of her body, from her head to her heels, as possibly exempt from pain, she often resents the insinuation, and declares *that* is the very part where she suffers most. Whilst she tells you all this in a sort of whine, her features don't show indications of any agony, and, if you watch her, you will find she over-acts her part. Utterly indifferent to the anxiety of parents and friends, or to the trouble and expense she causes, she seemingly finds gratification in watching the unwearied efforts of those around her in doing their best to comfort and help her. Whilst putting on an air of the most abject listlessness whilst you look at or speak to her, if you talk at her you will learn that she has both eyes and ears; if you assist her in anyway she makes herself as helpless as she can—a dead weight. These creatures not only deceive everyone around them, but in time they succeed in deceiving themselves. Were it not so, I cannot understand how they continue playing such a sorry game for so long, and with so much strain and fixity of attention to the exclusion of everything else as I have seen them do. If we push our enquiries a little further, we generally discover that there is some obliquity of the moral sense; an ungratified whim or disappointed affection at the bottom, and that whilst the patient will be abed for weeks, or on a couch, quite unable to to anything, suddenly some evening she will announce her intention of going to a ball, where she will dance the whole evening; or she may take it into her head and mount her horse, and, should she meet with hounds, join in the chase, and, what is more, ride straight.

Before giving illustrative cases of each, just one word on what has been called Alcoholic Neurasthenia. I have read of such, but never seen one. I have met with excessive drinking in both classes of the broken down, but the nerve failure preceded the indulgence, and was clearly its cause. I dare say I have seen as much drinking among men and women of all classes and ranks as most, but I do not hesitate to affirm that, during the whole course of my experience, I have never known intoxicants, even when taken in great excess, produce the slightest approach to the form of debility we find here. I have seen locomotor ataxy and acute multiple neuritis follow in the wake of the drunkard, but never neurasthenia. I am not going to defend intemperance in alcoholics, although I agree with Sir Wm. Roberts in looking on them as powerful for good, as they are, under certain circumstances, productive of evil; yet when I find it associated with nerve exhaustion I shall always look on it as the natural outcome of the knowledge which is universal, that a stimulant will give a lift to one when down that nothing else can, and that generally in the first instance the *glass* has been brought to the patient's lips by her urgent needs, the pressure of friends or advice of one of ourselves.

Hitherto I have spoken as if neurasthenia were to be found among women only, but such is by no means the fact, as it is quite as common, if not more so, among men. Only the symptoms with them differ in many essentials, and are much more of a negative character than positive. Five and twenty years ago, before the term neurasthenia was introduced, I described this form of nerve exhaustion in an article I then published under the title of "Jaded Brains," and as I have not met with a more graphic description from another pen, and could not write a better now if I tried, I shall quote two or three sentences from it.

"Used up, undone, jaded, are no uncommon expressions; nor are they alone descriptive of the old and infirm, of the votaries of pleasure, the victims of dissipation—or even of those whose bodily powers have been enfeebled by disease, or underminded by want and privation. They are more frequently made use of to express a state of mental or nervous exhaustion than bodily, and have a totally different signification to the terms tired, fatigued, weak, which are applied to the condition of body consequent on unusual exertion. Is there a medical practitioner of the present day, of even moderate experience, who cannot testify to the fact that these, or similar expressions, are being constantly made use of by many patients in the prime of life, and apparently in good health; at least, whose outsides bear no visible sign of decay within! How many among the active, bustling, money-hunting men of the world—because they are going too fast, working at high pressure; because their business is no longer the plain, matter-of-fact concern it used to be, but is accompanied with a vast amount of excitement, and demands an expenditure of nervous energy which they cannot afford—complain of being used up. How many tell us that they are fit for nothing, that their minds have become unhinged, or have lost, in a certain measure, the power of continued thought; that the writing of the simplest business letter, which ought to cost them no trouble, is a task which can be accomplished but with greatest difficulty; that they have ceased to take an interest in everything—wife and children are indifferent to them; everything alike and everybody is a bore; with spirits broken and fast-failing strength, they apply first to one thing, then to another—wine, brandy, tonics, each has its turn; by these the jaded brain is urged to make another effort in the race for wealth, position, or power, just as the pumped out racer is urged with whip and spur to keep the lead, and too often, with like result—a breakdown.

"During the last quarter of a century, science and art have gone hand-in-hand in furthering our progress towards a more perfect state of civilisation than has at any previous time characterised the history of man. By their means

labour, muscular, or manual labour—is being rapidly reduced to a minimum, and mental or brainwork is being proportionately increased.

"Is there a handicraft whose labour has not been lightened, if not removed, by recent inventions? I leave our mills and manufactories, hydraulic powers, steam hammers and steam ploughs, machinery of every kind and for every purpose, to proclaim the fact—that the muscles and sinews of man are no longer required to accomplish the kind of work they were but recently obliged to perform.

"This being the fact, it is not among the working classes that we meet with examples of nerve exhaustion; the increase of machinery I have above alluded to, and its very general application, has not only assisted most materially in lessening the burden of toil to them, but it has raised their general intelligence; its effects upon the great mass of the people have been for good. It is otherwise, however, with many an inventor of that very machinery which has modified and improved the condition of the artisan. How much brain has he spent, and with what results to himself, upon accomplishing what looks so simple when done? It would furnish a most instructive and melancholy history if, with mechanical improvements and scientific discoveries, we could obtain an insight into the condition of their authors. How many have broken down before their plans were matured, after months, aye, years, of anxious experiment and doubtful strife? How many, even when their endeavours have been crowned with success, find themselves bankrupt in health, and totally unequal to enjoy their well-earned riches and reputation?"

Moreover, "it is no rare thing to find the pioneers of science and art pretty hard up as regards cash, and too willing to pinch themselves and their families concerning even the very necessaries of life, in order that every possible shilling may go to the development of the one grand idea, which is, at the same time, the offspring of their thoughts and the master of their actions."

TRUE NEURASTHENIA.

Case 1.—Young lady, in affluent circumstances, of good family history, and in perfect health, chose to nurse a favourite brother in a long illness, the result of over-exertion in athletic sports. For eighteen months she seldom left the sick-room, and during the whole of this time never felt the slightest over-fatigue. The brother died. For a time, although sleepless, the girl seemed equal to anything. At the end of a month she felt a weary aching in her spine, which strong pressure relieved. This was shortly followed by a feeling as if, in walking, her feet were far too heavy, and they had to be dragged along. Then migraine put in an appearance. She noticed that she could not even force herself to take an interest in anything. Her favourite studies, pet animals, and friends became not only indifferent to her, but a source of annoyance. Suddenly her strength failed, and she could scarcely walk a yard, or stand without help. Pain in her head increased, and when it was absent she felt as if there was a weight on the top, and as if the inside was stuffed with cotton wool. Palpitation, with intermittent cardiac action came next, and left a sense of choking, as if some one grasped her throat. She could take plenty of nourishment, but it never did her any good, and she had a feeling of sinking at epigastrium. She fought against her troubles; managed even to dress herself with sittings down and patience. She, however, could do nothing except, as she said, eat and sleep. Motion of any kind caused great exhaustion, and exercise in a carriage, whether on road or rail, made her suffer agony as if a gimlet was at work in her spine. This was accompanied by sea-sickness, as she called it. The erect posture, if maintained for more than a quarter of an hour, did the same thing. She looked exceedingly well in the face, and the body was fairly nourished; functions normal. She always tried to appear as bright and cheery as possible; was so pleased when she could tell me she had been able to sit up a little longer, or walk but a step or two further. She always felt the air of Harrogate to give her life and spirit.—Three summers, under my observation, ultimately regaining perfect health.

Case 2.—Young lady, in good position, and as far as I can make out—although weak as a child without any neurotic proclivities—she had been neurasthenic for five years before I saw her, and at my request she has furnished me with her history previous to my visiting her. She begins by saying you have always seen my best side; I am only a poor creature, with all sorts of horrid feelings to fight against, and often failing in my efforts. I shall only give an extract of her account. When at school, in town, suffered from a constant feeling of tiredness in back, as if it never could be rested; she fought against this, fearing she might be looked on as shamming. On returning home she had a great deal of trouble, now even painful to look back upon, but this had nothing to do with the *affections*. Six months after she broke down, and her medical man could not say what was specifically at fault. For two years she suffered from low spirits, yet she went about like other people, telling no one of her ailings—attended to her duties—and, whilst feeling wretched, she could point to nothing definitely wrong with her, and looked in good condition. She actually persuaded herself that her feelings were all nonsense, and her great aim was to have plenty to do, and so forget them. Suddenly she collapsed; she went to bed as usual, awoke in the night with a dreadful attack of giddiness and sickness. All next day this continued, and if she moved it felt as if some one was stirring up her head with a stick, or as if two waves met in the middle, and had a struggle for a few seconds. For days she was so ill she was allowed to lie in bed, without its being made. The slightest sound caused agony. For three months she remained in much the same state, with the addition of spinal neuralgia. When able to travel she went to the North of Scotland, where strength seemed to pour into her, and in some weeks she returned home, able to walk a little. For a year she did nothing; then she overdid herself district visiting, and attending to many things in her brother's parish, which had been sadly neglected by the former vicar. She went on struggling for a time, requiring to exert all power of self-control to prevent people knowing she was so utterly unequal to the work she had taken in hand—and so irritable and wretched, that sometimes she could hardly bear to be looked at or spoken to. This went on till the work and excitement of a bazaar finished her. A frightful attack of shivering was followed by utter prostration. Recovering partially, she then went in for assisting at Christmas Church decorations, and that was more than enough: she felt as if she were paralysed, when sitting her legs trembled, and if she moved her foot the least, a horrid creeping sensation went all up her. Since then, for the past three years, she has been almost entirely confined to her back, suffered from nerve-storms, affecting head and spine, from gastric neuralgia, palpitation, irritability of special

senses, and nearly total loss of all voluntary muscular power, the slightest attempt knocking her to pieces, and causing her to wish the floor would be so kind as to open and hide her. The agony felt is sometimes very great, and yet she would rather suffer anything than let her friends know that her self-consciousness was so terrible. She adds, I can tell you anything because you have never laughed at me, nor been surprised at my apparently foolish feelings, and comforted me by saying I had nothing to be ashamed of or reproach myself with. She adds, I feel better now than I have ever done. I get out every day with my chair close to the sea, the smell of which is more delicious and refreshing than the scent of any flowers, and makes me feel as if I were growing stronger every minute. I have much less pain in my back, and altogether wonderfully well for me. Her description of her symptoms is so good, so faithful, I sha'nt spoil it by adding more, except that she is one of the most gentle and unselfish creatures, and that her sufferings have been lightened in a great measure by her faith in a religion void of cant.

FALSE NEURASTHENIA.

Case 1.—Young lady, æt. twenty-eight, suffered for seven years from the most marked form of neurasthenia. Her debility was so great she lay on the bed or a couch, complained of neuralgia in every portion of her body. Sickness, anorexia, palpitation, insomnia, intolerence of light and sound, was much given to hysterical fits of both crying and laughing. Had been under many doctors, tried many systems and changes, all to no purpose. At last some enemy of mine suggested Harrogate waters, and I was required to meet the patient and superintend her removal from an invalid carriage at my end, as her doctor had seen to her being carefully laid out in the same when starting on her journey. On receiving her in my arms I was struck by a searching look she gave, and also by the marked effort she made to appear as utterly helpless as possible. She could not put an arm round my neck; it had to be placed for her. On my way with my dead weight, I intentionally stumbled, and at once she clutched me, and then I said to myself you are an utter humbug, and I'll find you out. On my second visit I said to her, "You really are so weak I must have a first-class nurse to wait on you." This she strongly objected to, but I insisted on it. I told the nurse that she was to report faithfully to me, all the symptoms presented day by day. For a fortnight my patient remained exactly in the state I found her; pains, palpitation, sickness, diarrhœa, constipation, faintness, swoons, all had their turn, and yet there was something about the woman that told me I was right in my suspicions. At last I obtained proof positive. I had always driven to her lodgings at a certain hour. She could see me, from her couch, stop at her door. I knew the nurse went out every afternoon from two till three, so, having paid my usual visit in the morning, I walked past her window when she was alone. I looked in; I saw her sitting up on the couch, doing something with her hands. When she caught sight of me she threw herself most vigorously down, pushed whatever she was working with under the covering, and on my going in I found her greatly flushed, looking as if she would have liked to have scratched my eyes out, but as helpless as ever. I asked for an interview with her father, told him what I had seen, that I felt as certain as I was of anything that his daughter was not the invalid she made herself out, and that I could do nothing for her, and declined further attendance. I was heartily abused. The girl kept up her old game successfully for, I think, a couple of years, when suddenly she appeared one day moving about like any other being, and assumed her proper place in the father's household.

Case 2.—I was consulted in the case of a married lady, who for years had been the subject of neurasthenia. She was moved about in an invalid carriage, or a reclining board on wheels. She was very helpless, her nurse and maid had to wash and dress her like an infant; but I noticed the effect was artistic, one or other held a gaudy parasol over her head when out for an airing. Ribbons of various colours, and fine lace helped to set off a pair of wicked black eyes. There was a fetching air about her that struck me the first time I saw her. Her physician told me he suspected some uterine mischief, and he had called me in in order that I might ascertain the condition of that organ. I at once proceeded to examine, but as quickly desisted, left the room, and told the doctor that his patient was a nymphomaniac, and the less we meddled with her womb the better. For years she played the invalid, lying in bed for months. She again came under my care; this time she took me into her confidence, and although she was the greatest humbug I ever met, I could not help feeling pity for her. She would tell her husband she had not broken her fast when he came home at 7 p.m., when I knew she had eaten three full meals, with "stout" at two of them. That she could not retain her water, when no one ever found a wet thing about her. At last he took her to London. She was put into a home, had her clitoris removed, was kept isolated for months, and returned home exactly as she left it. She was constantly seeing some fresh doctor, whose attention was invariably directed by the patient to her uterus, urethra, or bladder, the result being the introduction of speculum, dilator, or catheter, and this went on till menstruation or something else ceased, and then she became a strong, active, and useful member of society.

I have but a few words to say on the management of true neurasthenia. First of all, if we are to be of any use we must gain our patient's entire confidence, and this can only be accomplished by showing her, and making her feel, that we take an interest in and sympathise with her. 'Tis no use treating these cases as we do the ordinary run of patients—feeling the pulse, looking at the tongue, using stethoscope, sphygmograph, or any other graph. We must sit down and interest our client. Don't ask her about her symptoms; tell her how she feels. Let her see you know something of the pranks nerves can play. Throw into your manner and conversation as much sunshine as you can. Give her something pleasant to think about, and make her look to your visit as the most agreeable portion of her day. If you can get her to take an interest in one of your patients, whose condition is worse, and whose wants are greater than her own, you will decidedly have made a good move. Let there be no hurry. By and by, when you and she have got on good terms with each other, explain to her the nature of her illness. Make her understand that she must be guided by you in everything; that for the present she must bow to the inevitable, and submit to the strictest rules as regards her *self*-management. Above all, make it clear she must live within, not up to her powers. If she can walk for ten minutes let her stop at eight; if she can read or write for so long without discomfort she must give both up in time to prevent that feeling. Put also a bridle on her tongue, and visitors and friends must be made to cut their conversations

short, and arrange that she may not have too many one day and none the next. Everything must be done regularly and in order. A system of diet adopted and enforced best suited not only to her requirements, but her capacity as regards digestion and assimilation defects in these functions must be remedied by suitable treatment. The entire surface of both should be washed with soap and warm water each morning, and dried carefully with warm towels.

At night, general friction with warm olive or cod-liver oil should be employed, as not only a means of promoting circulation and tissue change, but as being conducive to repose; in this case a flannel nightgown is essential. Passive exercise in open air, and exposure to the sun's rays, should be made compulsory, in Bath chair or carriage; if these are not to be had, rig up a tressle, carry her if she can't walk to it, and let her lie there for so many hours each day. See that her bedroom has a plentiful supply of fresh air, and whenever safe let her sleep with a piece of her window open. As to stimulants, when these are necessary, I prefer stout and unsweetened or sparkling coca wine to anything, and these should always be taken with food. In the matter of drugs I have little to say; I have tried every tonic, with most unsatisfactory results. Aperients are often required, and I prefer rhubarb, aloes, and sulphur to salines. Sedatives are of course absolutely necessary, and the bromides are by far the safest and most effectual. Opiates and chloral should be held in reserve and given with judgment. Massage, electricity, and hydropathic appliances I have found most disappointing, but change of scene and climate highly beneficial. Whilst advocating these, I must ask you to remember that travelling is badly borne, and on advising a visit to any health resort, time must be allowed in order that the fatigue of the journey there and back may be more than recompensed by the visit. The most perfect restorative I have yet met with is a long sea voyage in a well found high-class steamer, and when that can be put into practice it will be found the cheapest and surest means of cure. Isolation in a home I consider a most questionable step, and altogether uncalled for in cases of true neurasthenia, however suitable to what I have described as false, then I think it likely to prove highly beneficial. At the same time I should prefer that it be carried out in some public institution, under the charge of a medical staff, and at a reasonable expense. I do not hesitate to say that in my opinion all private houses, set apart for the reception of special patients, should, like lunatic asylums, be under some form of Government inspection. I would not venture on making such a suggestion unless I had good grounds for so doing, from a knowledge of what takes place occasionally in these establishments, as well as what I have seen happen to certain patients after their discharge from isolation and return to society.

At the beginning, I said that the remarkable increase of neurotic patients during the last forty years, constituted one of the most striking features of our time. But don't let us forget that nerves existed and were recognised in the dark ages; their symptoms may have been misinterpreted; their treatment by charms, incantations, and compacts with the devil, in whose personality and power people then, as now, believed, a little too speculative, still I have no doubt much good resulted from the powerful direct appeals made to the imagination of the patients. It is recorded that about the time of the union a blacksmith practised in the parish of Kilmartin, in Argyllshire, who had a specific which cured all sorts of fits and nerves. This son of Vulcan was a man of singular power and presence; his command over the muscles of his brawny arms was marvellous. When a case was brought to his smithy, he placed the patient's head on the anvil, face upwards; he then took his big hammer in both hands, and, swinging it high in the air, he made his approach with ferocious aspect, as if he meant to kill at one blow. Down came the hammer, only to be arrested when unpleasantly close to the poor thing's nose. The effect was miraculous; the shattered nerves were restored, the fits cured, never again to require even the application of a burnt feather!

ON OSTEITIS DEFORMANS, OR SENILE PSEUDO-RACHITISM.[1]

By S. Pozzi, M.D.,
surgeon to the lourcine.

Our knowledge of the disease to which I wish to direct the attention of the Congress is of recent date. On November 14th, 1876, Sir James Paget read his first paper on the subject before the Royal Medical and Chirurgical Society of London. The title of this work was as follows: "On a Form of Chronic Inflammation of Bone (*Osteitis deformans*)." It was published in the sixtieth volume of the Medico-Chirurgical *Transactions* (1887; p. 37).

In chronological order, then, come the observations published by Charters, G. Symonds (in Guy's Hospital *Reports*, 1880-81); an additional paper by Sir James Paget (in the Medico-Chirurgical Transactions, 1882); several observations made before the Pathological Society of London by S. Willis, Charters, G. Symonds, Treves, Henry Morris, Barlow, Bowlby, Turner, etc. A paper, which I have not been able to consult, has been published in America by Ellinwood, in the *Western Lancet*, San Francisco, 1883. In France I have not found any other document on this curious affection than the very short notice which Dr. Vincent has consecrated to it in the French translation of the "International Encyclopædia of Surgery," IV., p. 359, he was content with giving a *resumé* of the papers of Paget, without adding any new cases. This has induced me to report *in extenso* the following cases, one under my own care, the other two graciously communicated to me by Professor Ollier. I will then give a sketch of the malady as it is made known to us in different works up to date.

Case 1 (reported by M. Thouvenet, Interne).—*Osteititis Deformans—Incurvation of the Tibiæ and of the Bones of the Upper Extremities—Fungoid Osteitis of the Finger—Otorrhœa (Senile Scrofula)*. Louvel, cap maker, aged sixty years, patient at the Hospital Pascal. *Antecedents:* health good; no signs of scrofula in infancy, neither syphilis nor rheumatism. Commenced to menstruate at seventeen years. Regular up to forty-five years, epoch of the menopause. Mother died at forty-five years in consequence of a disease which she could not specify. Father not known. Three sisters died after long illnesses. Earning very little, she was for a long time badly nourished, living for a long time on a diet chiefly composed of vegetables. The osseous affection, with which she was attacked, commenced at the age of fifteen years. The left leg first became the seat of acute pain, localised in the heel and knee. This pain, which persisted during four or five years, only appeared when the patient was more

[1] A paper heard at a French Congress on Surgery.

fatigued than usual. In process of time the tibia became equally painful. Her work was never interrupted; at the same time she suffered in the left leg she remarked that it was deformed, the tibia formed an anterior curve and progressively reached the degree of deformity I am about to describe. It was only a year since she noticed that the right leg was also deformed (fig. 1).

Actual State: The left leg describes a curve on the anterior convexity. The tibia is considerably thickened. The epiphysis, especially the superior, are especially increased in size. The peroneus is neither augumented in size, nor changed in the direction which makes the interosseous space very great, especially in the middle part. The leg is flattened from outside to inside. The muscles of the posterior region

Figure 1.—Front View.

Figure 2.—Profile.

are held like a cord round the shortened tibia, which forms the arch. The right leg is less deformed, the tibia shows a shortening at the interior convexity. The patient lying on her back, the two heels together, the internal tuberosities of the tibiæ were at a distance of twenty-four centimètres The left leg was slightly shorter than the right. In walking, the patient limps and rests on the external part of the left foot. Her height has considerably diminished. She walks short. This seems to me to indicate an alteration in the vertebræ.

The iliac bones and the thorax do not present any deformity. The skull does not show anything notable. The left indicator was attacked some nine months since. It is swollen, fusiform, red, and shows several little orifices from which run pus—upon pressure there is slight crepitation. The left humerus exhibits a shortening, both anteriorly and internally less pronounced; it is increased in size. The patient is left-handed. The right radius in the lower part is curved backwards. Movements of supination are performed with difficulty and incompletely on this side. There was a running from the ears, which had been going on for about a month, of a sero-purulent liquid, which has now ceased. Hearing is rather bad. Appetite good; indigestion good. Urine normal. Nothing wrong with the lungs or heart. The patient was placed on an alimentary diet, with cod-liver oil.

The bad finger, which was so painful, and the seat of constant suppuration, was taken off on the 15th April. M. Pozzi performed metacarpo-pharyngeal disarticulation and resection of the head of the metacarpus; the latter being softened and breaking down under the bone forceps. In the sheath of the flexor of this finger, in the palm of the hand fungosities existed, which determined, at two points, small abscesses, which opened spontaneously. The invasion of the sheath took place progressively. This had been established when the patient was under treatment. A longitudinal incision was made at the top of the diseased sheath, which was scraped and cauterised with the thermo-cautery, Phenic dressing. Rapid cure after operation. Histological examination revealed the tuberculous nature of the osteitis.

Case 2 (communicated by Professor Ollier under the

following title) :—*Local Osteomalacia of the Tibia having a debut of nineteen years—Increase of Bone—Deformity of Condyles—Curvature of the Diaphysis—Gouty Diathesis* —M. F., aged at present seventy years, consulted me in 1865 for a painful swelling of the diaphysis of the left tibia without any deformity. For three years vague pains, uneasiness in the leg, some varices. No previous acute rheumatism ; some digital nodosities, but not marked. No rachitism in infancy, no syphilis. Three or four years before the affection of the tibia, swelling of the knee on the same side, which yielded to the application of blisters. The articulation yet remains a little more stiff. Some crepitation. I ordered the patient iodide of potassium, Vichy water, rest ; flying blisters if the pain persisted. I did not see the patient again for seven years—March 23rd, 1872. She told me that on August 15th, 1871, she had a fall on the pavement, which obliged her to pass three weeks in bed. In this fall she had heard a crack, without being able to say whether it was in the tibia or on the knee. At any rate, as the result of this accident, the projection of the tibia became apparent. Before this time Madame F—— had many falls, which increased the painful sensations in the leg ; but what I wish to note is, that the projection on the tibia did not form immediately after the fall on August 15th, 1871, the patient only perceiving it four or five months afterwards. The curvature is not abrupt ; there is no angular projecture as in fracture. The bone diminished in consistence, but yielded gradually under the weight of the body.

(*To be continued.*)

Special Articles.

MEDICO-MECHANICAL GYMNASTICS.

In a very interesting book published by Chapman and Hall, in 1864, entitled "The Muscles and their Story from the Earliest Times," by Dr. John F. Blundell, we have a very instructive account of the various processes adopted by the ancients for the purpose of strengthening the body and curing its ailments. The whole art of education in ancient times was in fact embodied in the well-known maxim, *mens sana in corpore sano.* A mutual balancing of the two forces, physical and mental, was aimed at.

Dr. Blundell traces the development of medical gymnastics from the time of Hippocrates, showing how the Greek and Roman youths were trained not only for war but for peace, and how the citizens armed themselves by games and exercises which better fitted them for daily toil.

The medical aspects of the system of training are very important, and "In Rome during the time of Marcus Aurelius the designs and qualities of exercises were under public inspection, and the pupil-teachers were ordered to be selected from the gymnasiums, owing to their superior knowledge and experience of what were judged, by the different authorities on exercise, to promote health and a good habit of body" (p. 38).

The great art consists in finding out what exercises suit ; what are best for certain individuals, so as to strengthen the natural habit of the body. Dr. Blundell's book is well worth reading, more especially as we are returning somewhat to the practices of the ancients in re-introducing massage and medical gymnastics.

Massage is now a fashionable as well as useful form of medical treatment. It has passed through many phases, and

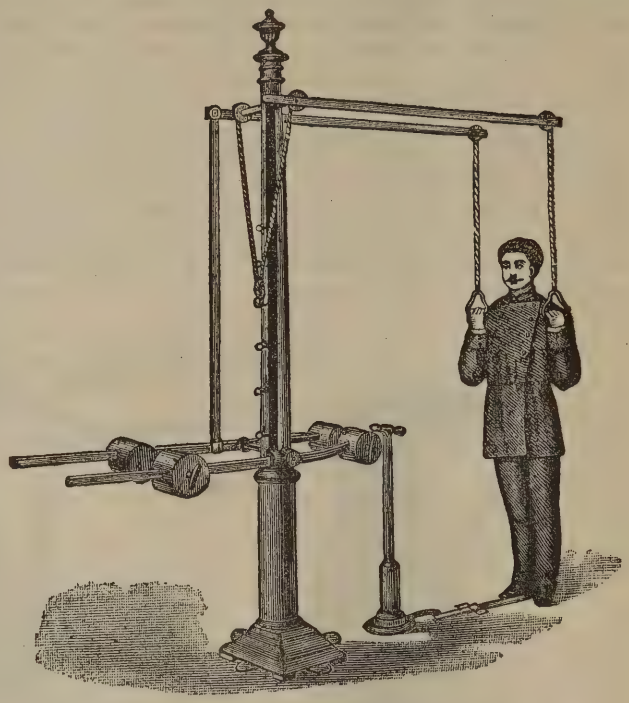


Fig. 1.—Arm Depression and Flexion. (An illustration of "Active Arm Movements.")

we have its latest development, in the introduction of special machinery for the purpose. Since Dr. Zander, in 1865, opened at Stockholm, an institution for medical gymnastics,

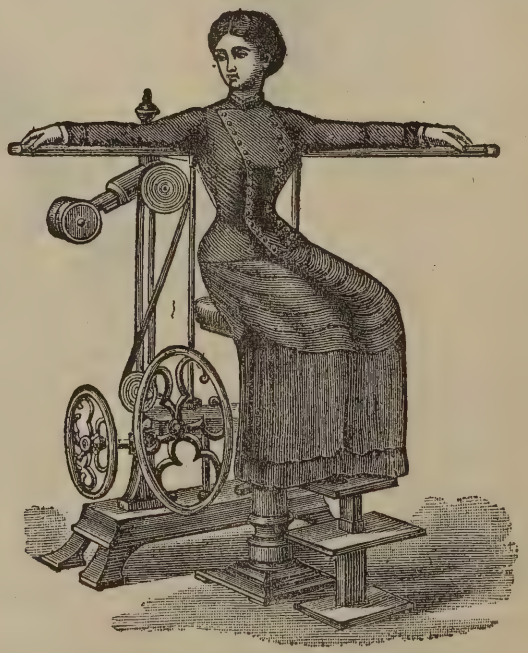


Fig. 11.—Drawing the Arms together (Adduction.)

the method of treatment has widely spread, and his apparatus are to be found in many of the foreign health resorts,

Hamburg, Baden-Baden, and in many of the principal cities as St. Petersburg, Paris, etc.

Dr. Zander's apparatus is meant to take the place of the *Masseur or masseuse*, as he has proved by practical experience that by machinery he can better adapt the exercises to the patients' requirements, and besides that, with a number of automatically acting machines, a larger number of patients can be treated at one time. We are able to present our readers with a description of some of the machines in use at the Institute of Medical Gymnastics at Baden-Baden, taken from two papers, one by Dr. Brown in the *Satellite*, Philadelphia, and the other Dr. Mazzuchelli in the *Journal of Surgery and Antiseptics*.

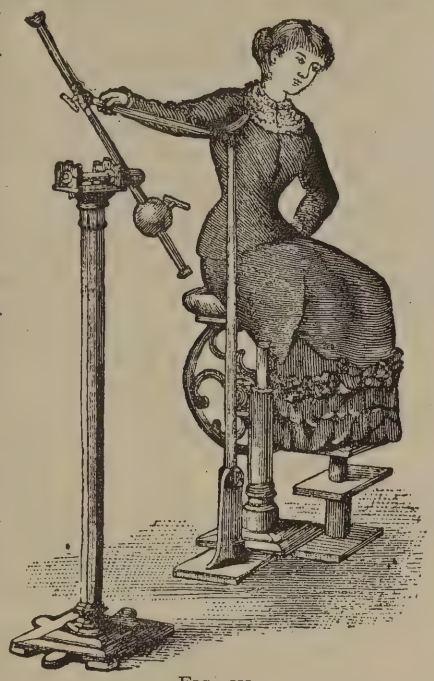


Fig. III.

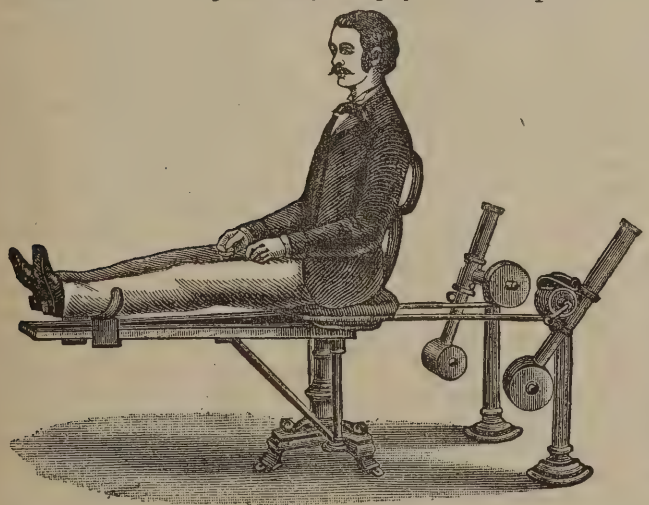


Fig. IV.—Leg Spreading (Abduction). "Active Leg Movements."

Dr. Zander's apparatus are divided into two classes.

a. Apparatus moved by the patient's muscular efforts.

b. Apparatus moved by steam or gas engine.

a. These apparatus are divided into groups.

1. Active movement of the upper limbs.
2. Active movement of the lower limbs.
3. Active movements of trunk.
4. Movements of equilibrium.

b. Apparatus for passive movements.

c. Apparatus for mechanical action.

1. Movements for shaking.
2. Movements for *tapottement.*
3. Movements for *petrissage.*
4. Movements of massage *a friction and frottement.*

If we look at some of the drawings, we shall see how the exercises are carried out. Fig. 1 represents the apparatus for the lowering of the arms, with reflexion at the cubital articulation. The patient, holding the upper limbs aloft, takes the handles and lowers the arms so that the hands come in front of the shoulders, the elbows touching the thorax, as shown in the illustration. By this motion the patient lifts the weights placed at the inferior part of the machine. The position of these levers varies the resistance, and therefore the amount of muscular force needed to overcome it. With this movement slowly done a number of times, the strong muscles of the back and chest are exercised, as they are compelled to draw down the humerus, which has been extended aloft. In this exercise the flexion of the elbows is nearly altogether passive; thus the flexors of this articulation do not act much. This exercise is intended to develop the thoracic frame. Adduction of the arms is brought about with the apparatus, fig 2. The patient, in a sitting posture, holds his arms extended laterally in a horizontal position, so that the arms rest comfortably at the level of the apparatus, while the hands grasp its extremity lightly. The arms are then carried forward until they meet, thus overcoming a resistance opposed by weights placed behind, a resistance which, as in every other form of apparatus may be varied with the position of the weights. This movement exercises

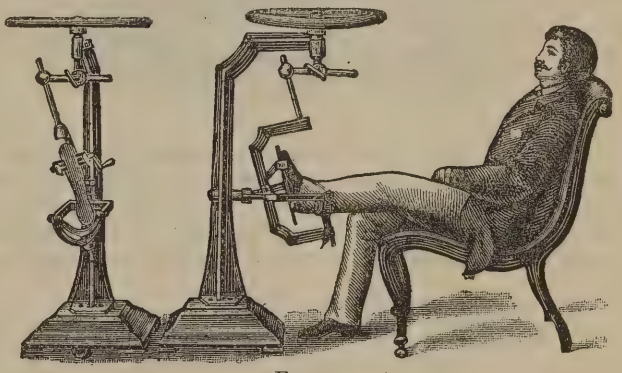


Fig. V.

the muscles of the anterior portions of the thorax and of the humeroscapular articulation. This exercise also serves to develop the thoracic frame. Circumduction of the arms is secured by apparatus, fig. 3. Active moments of the lower limbs are brought about by such an apparatus as fig. 4. This is for abduction of the legs. The patient seated, places the legs over two boards, the ends resting on crutches. The different positions given to the balls serves to establish with accuracy the amount of muscular effort required.

In fig. 5 we have an apparatus to circumduct the foot. The patient sitting and extending the limb, places the foot against the opposite movable pedal: then with a movement of circumduction of the foot, a fly wheel placed above, is notched, a small graduated rod connected with the hub of the wheel serves to establish the length of the arc of circle described by the foot during the exercise. This exercises both the flexors and extensors of the foot and, moreover, the rotation gives elasticity to the articular capsules and the ligaments of the foot.

In fig. 6 we have an example of the class of machine performing mechanical massage, the arm passing through the wheel is gently rubbed, and thus friction is maintained. Other parts of the body can be similarly rubbed by appropriate instruments. The expense of these machines varies from 500 to 1,500 marks a piece; they run with steam or gas

power, and make very little noise. They are only used under medical direction, and the assistants who carry out the treatment are assisted by printed directions. The instruments are only used for a few minutes. In the practice of massage,

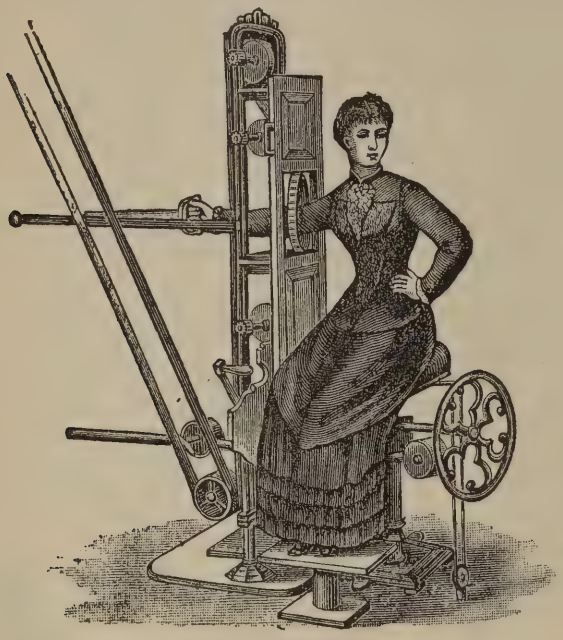


Fig. vi.

one great mistake is made by many; too much is done at one time, an hour is frequently spent by the rubber on one patient. This is over-doing it; a quarter-of-an-hour or twenty minutes is ample for one sitting. At the establishment at Baden-Baden the arrangements are almost complete.

HEALTH RESORTS OF THE WORLD.

XXVI.—GREAT MALVERN.

By an old Oxonion.

In August, 1857, I was only a tiny boy, and then for the first time, I was, much to my delight, taken to Worcester. The Midland in those days was well managed and as popular as any other leading line, but as no railway extended to Malvern, we had to alight at Shrub Hill, and continue our journey by coach. The evening was lovely, and as I was perched on the top of the coach to see the country to the best advantage, I can still remember the pleasure I felt going along Bridge Street and across the Severn Bridge, and past Powick, with its stately trees and gentle ascent, to Malvern Link and Great Malvern. The verdant fields, the large orchards, the majestic hills in front, looking to my childish fancy like a second Himalayan range, made a *tout ensemble* unlike anything that I had, up to that time, ever seen. Malvern was even at that remote time a favourite place, and Birmingham and the Black Country, and still more distant places, sent during the summer months small contingents of visitors and invalids, but it was not until the opening of the railway, shortly after my first visit, that the place became easily accessible and popular. Long before I was born the town had become famous for its vast hydropathic establishments, and wealthy sufferers had, in considerable numbers, when the difficulties of the journey were remembered, gone thither and passed through its severe regimen and total change of life. The hydropathic establishments of those days still flourish, though the great medical names of thirty years ago are nearly forgotten. Dr. James Manby Gully I frequently remember seeing riding about, and his singular resemblance to the great Napoleon was pointed out to me. Of course I did not understand what was meant by it, and it was not until the winter of 1875-76, when I saw him again, as a friend, in London, that I noticed that extraordinary likeness. In 1857, Dr. Gully was the great light of Malvern; his reputation, destined to undergo total eclipse, attracted innumerable rich clients, and he made the town famous while the town regarded him as its greatest benefactor, and most illustrious citizen. Dr. Ralph Grindrod was also in the zenith of his fame, and, though somewhat advanced in years, was still vigorous and active, and was naturally proud of being the author of the once famous "Bacchus," a work which, though now superseded and nearly forgotten, was, in its day, a kind of revelation, and did the temperance cause incalculable service. Since then both Gully and Grindrod have passed away, and the latter is represented, though in a different house—Wyche Side, Malvern Wells—by his son, Charles. The former has left no representative of his name in the medical profession, and his lamentable and unpardonable downfall shook the faith in human nature of many excellent people.

Malvern is built along a fine, broad road skirting the hills, and extends some miles along that road, from the Link, through Great Malvern, to Malvern Wells. The principal part of Great Malvern stands at the foot of that noble hill—the Worcestershire Beacon, and is considerably raised above the fertile Severn Valley. It is excellently built, covers (considering its small population—some 7,000 or so) a large area, includes some handsome detached and semi-detached villas, has a popular public school, a beautiful Priory church, several handsome hotels, capacious enough to accommodate hundreds of visitors who have money enough to pay for the comforts of an English first-class *pension*, and a good display of large and handsome shops. Altogether, the town is picturesque, clean, and attractive, and is far pleasanter than many other old watering places.

Standing just in front of the Foley Arms, close to Lamb's Library, one is in the midst of a beautiful and busy town, and yet not ten minutes from the open country. Up any turn towards the hill, and in an quarter of hour the town is lost to view, and the country is around us. Malvern has capital well made roads, which ascend by easy zigzags, and richly wooded heights, commanding an endless variety of views over the plain; every turn presents the valley in a fresh light, so that few excursions can be more fascinating or make a deeper impression.

Lodgings abound, and so do furnished houses, and though the season is not long, from July to the end of September, and the lodging-house keepers have to make the most of their opportunities, I do not think that prices are on the whole exorbitant; at any rate, in winter and spring accommodation is cheap and the choice bewildering. June would be an excellent month for a visit to Malvern. It is unfortunate that the modern division of the School year into three terms, and the consequent lateness of the summer holidays, keeps many people from seeing Malvern and other charming pleasure resorts till the longest days are past and the autumn tints are beginning.

St. Ann's Well is one of the principal features of the

little town. It is a quaint house, some 400 feet above the Library, on the side of the hill, looking toward Worcester, and about fifteen minutes' walk from the middle of Great Malvern. Not far from the Well, famous for its cool and delicious water, and towards the west, is a mass of rock, from the summit of which a noble panorama over the extensive plain presents itself to the eye. I once stayed at Hill Cottage, close to this rock and not far from St. Ann's Well, and I passed more hours than I could well count sitting on that rock, looking over the plain, the town, the church, and the shops spread out at my feet. Malvern is credited with an exceptionally mild climate, and is said to be a fortnight earlier than Hereford, while residents say that frost often occurs above and below the town, although the town itself is unaffected; a meteorologist would not perhaps find it difficult to give a plausible explanation.

Among the objects of special interest are, of course, the hills—especially the Sugar Loaf and the Herefordshire Beacon—the Wyche, a strange, deep cutting through the hills, and the imposing remains of a British camp half way on the road to Ledbury and not far from Eastnor Castle. Tewkesbury, with its majestic Norman Abbey, recently splendidly restored, is only a few miles off, and is reached in half an hour by rail from Great Malvern, while Worcester with its noble cathedral and the tapering spire of St. Andrew's Church on the one hand, and Ledbury on the other, with its rich foliage, luxuriant orchards, grand old church, with its superb west porch, detached lofty bell-tower, and quaint rural simplicity, are both easy of access by rail, and full of interest. Hereford, too, is not far off, while Brecon furnishes material for more than one day's excursion.

Malvern is well laid out, and happily combines the charms of country life with many of the advantages of a town, and is not without great attractions in the shape of good lodgings. It is just the place for a large family anxious to fly from the endless streets and noisy crowds of large towns, and it deserves even greater popularity than it seems to have in these days of keen competition. Malvern, for people needing special water cure treatment, is equal to Matlock or Buxton.

Very large crowds of excursionists reach the town on Saturdays and Mondays from Birmingham and Wolverhampton, but many of them idle the day away on the common near the Link, or in the principal street, and they certainly interfere very little with the wealthier visitors, who can easily keep out of their way. In short, Malvern has exceptional advantages of position and no drawbacks, except that its steep roads make walking difficult to the aged and the inactive.

XXVII.—THE SOUTH WALES BORDERS AND THE GOLDEN VALLEY OF HEREFORDSHIRE.

By Alfred J. H. Crespi, of Wimborne.

Sometimes standing on the summit, or, still better, halfway up the western face of the Worcestershire Beacon, you see, stretching at your feet, like another Garden of Eden, a vast plain, with here and there low ridges of hills. On one of the few clear, bright days of an English summer, when the air is transparent, the verdure richly bright, and the sun shining with that subdued brilliancy so much more grateful to the eye than the dazzling fervour of hotter climes, no scene can well be conceived more typically English. However dry the season may have been in Dorset and Hants, the grass is always green and the leaves always fresh on the borders of Monmouthshire and Breconshire. "In some quarters," says Canon Kingsley, "especially in the north-west of England, the soil is poor, because it is marked by that boulder clay of which I have spoken in other places, but the rich red marls, wherever they come to the surface, are one of God's most precious gifts to this favoured land. On them one finds one's-self in a garden, amid the noblest of timber, wheat, roots, grass which is green through the driest summer; and, in the western counties, cider orchards laden with red and golden fruit. I know, throughout northern Europe, no such charming scenery for quiet beauty and solid wealth as that of the new red marls; and if I wished to show a foreigner what England was, I should take him along them, from Yorkshire to South Devon, and say, 'there! is not that a country worth living for, and worth dying for, if need be!'" My readers will admit the fidelity of this charming description, and long to find themselves again on the Welsh Borders.

My first actual acquaintance with the country west of the Malvern Hills began August 29th, 1864. I was then a schoolboy, and was paying my seventh visit to Malvern, and that day, a singularly lovely one, I strolled to Ledbury, delighting in the dense shade of the road between Colwall and the town, and returning over the hills in the evening. Since then good fortune has enabled me to stay at Ledbury, Hereford, Madley, Turnastone, Ross, Lydbrook, Abergavenny, Brecon, Usk, Chepstow, Llanmartin, and Cardiff, and in this way I have gone through many of the fairest parts of England and Wales. If it came to choosing a place, beautiful in itself, with exquisite country near, and admirable railway facilities, a place where a little money goes a long way, and which soothes and invigorates the town dweller, I know nothing easier; perhaps the difficulty is to select the best out of twenty equally good. Any of the places mentioned are admirable for the purpose. The rural seclusion, the scanty population, and the total change of life, are just what the worn and worried business man needs during his short holiday, nor is there any lack of places of special interest to give some prominence to excursions. Let me begin systematically. Ledbury is quiet and small, but its orchards and verdure are not easily matched. Near Ledbury there are some interesting ruins, and from Ledbury the twelve-mile walk to Ross, is very beautiful and abundantly diversified; I have done it in heavy rain, there and back, and found it delightful. A few miles from Ledbury is Bosbury Church, with its huge, square, detached, donjon-like bell tower, ruder than that of Ledbury Church, but more massive. Then the walk to Dymock and Newent is, to say the least, pretty. Hereford of course is a fairly large town, with a Cathedral that offers a good deal to interest one in the shape of a singular, open-work, central tower, and a remarkable map of the world, the latter, by the way, more curious than accurate or beautiful. Ross is a prosperous place, famous for its Horseshoe Bend and for the beautiful road to Hereford, fifteen miles off, with a view at Much Birch, that, at five or six on a bright August evening, amply repays for any trouble to get to it. Lydbrook is dingy and smoky, but is situated in lovely country, and is reclaimed from neglect by its lofty viaduct and tapering supporting piers, 200 feet high, thrown right across the narrow valley, and resting in the garden of my accomplished friend, Dr. Theodor Linde. Symond's Yat is famous for its precipitous rocks, and—in a dry October—for rich foliage recalling that of America.

The Forest of Dean with the handsome Speech House, on the one hand, and Goodrich Castle, on the other, are close to Lydbrook. Chepstow, too, with its viaduct, high tides, massive castle, and proximity to Cærwent and Tintern, and deep, mossy, shady valleys, has much to recommend it. Monmouth, moreover, with its lofty church tower, and traditions of Henry V. must not be passed over, nor Usk, with its castle; nor Cardiff, with its castle and the tastefully restored Cathedral at Llandaff. Nor must Abergavenny, with its castle and charming walks, be omitted. Lydney, also, with its tapering spire and famous bridge, is worth a visit; and then, what of Llanthony Priory, perched on the side of the hill a few miles from Llanvihangel. Never have I seen a fairer sight than that which opened before me, as I crossed the Black Mountains in September, 1887, and wound down the footpath into the valley, with the remains of the vast Priory standing up superbly in the dazzling sunlight. To the antiquary the Priory is particularly interesting, as the columns are without capitals. From the ruins along the valley to Pandy station, is a walk that made me feel that one such day would amply repay for many worries, vexations, and disappointments.

Hereford, though my readers may be surprised to hear it styled a Health Resort, abounds in convenient lodgings, and can be used as a good starting-point for innumerable pleasant country rambles and short excursions along the banks of the silvern Wye. An excellent plan is to set off by a convenient train soon after breakfast, for four or five hours, and, again, about the middle of the afternoon, getting out, according to the capacity for walking, four, six, or eight miles off, and then rambling home. But I must confess that the attention is much more strained walking along strange roads, so that while the interest of the stroll and the pleasure derived therefrom are much greater, distances also seem far longer, and a walk of ten miles tires as much as a more familiar one of twenty. One of W. H. Smith's reduced Ordnance Maps is invaluable, and, after a little practice, nothing is easier than to find one's way by its help with very fair accuracy and directness. Hereford has exceptional advantages of railway accommodation; lines go direct to Gloucester, Ross, Abergavenny, Brecon, the Golden Valley, and Shrewsbury, and in summer very cheap tickets are issued to Ludlow, the Dinmore Hills, and other places of interest.

Ludlow, between Hereford and Shrewsbury, is a charming old town, with a certain far-away resemblance—in the matter of its houses—to Totnes and Chester, in other respects, nothing presents a greater contrast than the lofty hill on which Ludlow stands, and the peeps caught on every hand of undulating country, and the busy and dingy streets of Chester more particularly on a foggy evening. The principal feature of Ludlow is its castle, a noble, well-preserved pile, once of great military importance, and splendidly perched above the river. It almost makes one shudder, in these days when we so greatly prize fresh air and dryness, to think of living in the damp, mouldy, sunless vaults in which so many of the inmates of our ancient castles once dwelt. At Ludlow Castle, John Milton for a short time lived and wrote, and within its shelter Samuel Butler got through some of his best work, while Richard Baxter found here a resting-place. The Norman Chapel, a circular building of singular appearance, calls for careful examination. It was built by the Knights Templars, and resembles in appearance and design many churches which owned their sway. Four other circular churches remain in England, of which the Temple Church, in London, is the finest, though let me say that it is the circular portion of the latter which dates its foundation from mediæval times, and not the large and imposing nave, which is far more recent and, architecturally, less interesting. Ludlow Round Church once had a beautiful round steeple, and is remarkable for fourteen niches inside. The entrance is Norman, and of singularly beautiful workmanship. Ludlow would not be a bad place for a quiet summer holiday; it is large enough to have plenty of newspapers and postal deliveries; very easy of access, aud beautifully situated, and with no dearth of comfortable accommodation, the last a matter of importance to the visitor, but one in which in the open country a stranger is often grievously disappointed, and he finds that although the country may be charming and the cottages picturesque to a degree, he must be satisfied with looking on them from a distance.

At Hereford we are not far from the lovely scenery so exquisitely described by Wordsworth in those familiar lines, the full force of which only strikes us as we wander along the stream. I transcribe the passage, which gains in interest every time it is perused.

"Five years have passed; five summers, with the length
Of five long winters; and again I hear
These waters, rolling from their mountain springs
With a sweet inland murmur. Once again
Do I behold these steep and lofty cliffs,
That on a wild, secluded scene impress
Thoughts of more deep seclusion, and connect
The landscape with the quiet sky.
The day is come when I again repose
Here, under this dark sycamore, and view
The plots of cottage ground, these orchard tufts,
Which, at this season, with their unripe fruits,
Are clad in one green hue, and lose themselves
Among the woods and copses, nor disturb
The wild green landscape. Once again I see
These hedgerows, hardly hedgerows, little lines
Of sportive wood run wild; these pastoral farms
Green to the very door; and wreaths of smoke
Sent up in silence from among the trees!
With some uncertain notice, as might seem,
Of vagrant dwellers in the houseless woods,
Or of some hermit's cave, where, by his fire,
The hermit sits alone.
These beauteous forms
Through a long absence, have not been to me
As is a landscape to a blind man's eye:
But oft, in lonely rooms, and mid the din
Of towns and cities, I have owed to them,
In hours of weariness, sensations sweet,
Felt in the blood, and felt along the heart,
And passing even into my purer mind
With tranquil restoration: feelings, too.
Of unremembered pleasure; such, perhaps,
As may have had no trivial influence
On that best portion of a good man's life,
His little, nameless, unremembered acts
Of kindness and of love."

Sometimes at Hereford the tongue of the ancient Cymry is heard, and in the streets, shops, and markets, many countenances are noticed, that proclaim Welsh descent. But to see the Welsh, and hear their tongue to perfection, we must go further west. My first visit to Brecon, six years ago, will not soon be forgotten. A friend urged me to go over, but being an old military man—indeed it was the present honorary secretary of the Woolhope Club, Mr. H. C. Moore—he did not fall into raptures, but in a clear, decided voice remarked, "you had better go to Brecon; the town is poor, but the country round pretty." And so I went. The afternoon was all I could desire—warm, cloudless, and the days still long; it was

the 5th of August, 1882. On leaving Hereford, I was not at first particularly struck by the country, though it certainly was very pretty, but after a few miles the railway wound along a broad, deep valley, bounded by distant, but richly wooded hills; in the hollow of the valley wandered the broad, but shallow Wye. For miles there was a succession of panoramas, seen under circumstances of exceptionally good fortune, and far more lovely than even the beautiful valley stretching from Chepstow to Monmouth. The clearness of the air, and the fashion in which the houses, churches, and towns were perched on the heights, made the excursion very attractive. Brecon is old enough, poor too, and abounding in very squalid, and shall I dare to add unsavoury Welshmen and Welshwomen, but withal kindly and obliging, and imbued with a deep religious spirit. Three times since I have passed along the valley under similar conditions of brilliant sunlight and refreshing verdure, but I must confess that Brecon is a mountain town, and has the disadvantages of such a situation—in other words, far more cold than warm summer days, and a fatal propensity to pour down rain in torrents most unexpectedly on the traveller's head, so that if it is a mere matter of the greatest number of hot, sunny hours, and rainless days, Hants and Dorset have far greater advantages, but they cannot compare with Brecon in verdure, shade, and picturesque effects,

The town of Brecon, in spite of poverty, has much to recommend it in its situation. It was the birthplace of Sarah Siddons, and that is enough to invest it with interest in the eyes of lovers of the drama; then it has a noble Priory Church—S. John's—in admirable preservation, and with English and Welsh services. The grounds of the Priory, open to the public, through which the beautiful Honddhu ripples, are on a sunny summer day unapproachable in their leaf tints. From the winding walk, a hundred, and in places two hundred feet above the little noisy stream, you look down on the lofty trees below you, insecurely perched in the sides of the steep bank; and instead of looking up at the different tints, as one is commonly obliged to do, here we look down with a singularity of effect that to most English people will be quite unfamiliar. Brecon is called Aberhonddu by the Welsh, from being at the junction of the Usk with the Honddhu, rivers that for picturesque scenery leave nothing to desire. At Brecon, Welsh is commonly heard, and many of the people speak English with difficulty; and occasionally some are found in the market, and still oftener in the direction of the Beacons and towards Devynock, who neither understand English nor speak it. The Brecon Beacons, three noble hills, five miles from the town, are of singular grandeur, the loftiest rises 2,930 feet above sea level. I have twice reached the top, and on days of great beauty, but, as is usual in England, the view at that height, even in the most favourable weather, was obscured by a thin film of haze, which greatly impeded distinct vision. The Falls of Ffrewgrech, on the way to the Beacons, are very pretty, especially after heavy rain, when the water descends in sheets. Llangorse, or Llyn Safaddan, six miles in the other direction, towards Hereford, is also charming, a vast sheet of limpid water, three miles long and one and a half in width. One of the prettiest excursions is to Talgarth, and another to Builth Wells, along the rocky valley of the Wye, about twenty miles, and then across the hills, fourteen miles to Brecon, at first rich and fertile, then bare, bleak, and savage, with generally a keen wind, which even in summer is biting, and, finally, rich and verdant again to Brecon. An excursion to Devynock remains, along the road past the gaol, for ten miles, to which I must direct special attention—a walk that for beauty, variety, and picturesqueness has not many rivals.

Herefordshire is singularly beautiful for its woods, rivers, meadows, hills, and verdure; it is bewitching too in other ways—in a dreamy far-away life, in its seclusion, and in the survival of old world manners and traditions. Besides, it is a borderland, partly Welsh, partly English, and constantly obtruding its dual character on the visitor. This gives it special interest to those whose fancy wanders by preference to other days and primitive people. Between Herefordshire and Middlesex, or the neighbourhood of Manchester, what a vast gulf intervenes, which the few miles of railway do not bridge. So there are many reasons for regarding Herefordshire as a pleasant land, one in which a summer holiday can be passed with profit by a lover of the country.

Is there a lovelier sight than an orchard laden with golden fruit, at that season when the rapidly shortening evenings and the falling temperature warn that the short, uncertain summer of our high northern latitude is approaching its close? Yes there is a still more beautiful sight—an orchard in the soft, mild climate of the West, at the beginning of May, when every spray is covered with delicately tinted white blossoms, and the promise of the year trembles in the balance—a sharp night's frost, a stiff gale and the blossoms are cut off, and the ground strewn with withered leaves, tells the gardener that his labour and thought will have no return, and that he must be content to wait another year. In the rich retentive clays of Herefordshire and Worcestershire the hedgerows, gardens and orchards groan beneath their beautiful burden in a mild September, and it is tantalising to think that those golden spheres, fair as the apples of the Hesperides, are, like Dead Sea apples—beautiful and tempting to the eye, but bitter and sickening to the taste. Were the skies serener and the temperature higher, September on the Welsh Borders would leave nothing to desire: unfortunately the black clouds, the driving rain, and the chilly air make one long for lands, where the Heavens wear a more smiling face and the pinch of cold is not felt so early.

In the following pages I have tried to describe the salient features of the Valley of the Dore, a district seldom visited and still little known—that part of Herefordshire stretching from the ancient cathedral town towards Abergavenny, and interposed between the Black Mountains of Monmouthshire, with the often talked of but rarely explored ruins of Llanthony Priory, and the Valley of the Wye, often sung by poets.

But first of all let us ask the meaning of this suggestive word Dore. It is stated to be a modification or derivative of Dwr, water, a not inapplicable name, which was in the Middle Age confounded with the Latin and French for Gold, and that error has been perpetuated in the modern name—the Golden Valley.

The Golden Valley!!! What sweet music breathes in the words! It recalls scenes of rural felicity and peace unfamiliar to the busy dweller in crowded and unlovely cities, scenes of quiet happiness, which soothe the heart, and make it confess that life *is* worth living and that nature *is* most beautiful and beneficent. On one of those glorious summer afternoons so rare in England, but when they do occur more exquisite than anything which the rest of the world can show, is the time to see the Golden Valley to perfection. Then the traveller from Abergavenny to

Hereford passes through a country displaying everything most characteristic of English landscape—extensive woods, deeply-green grass fit to adorn a King's lawn, and gently ascending hills, sufficiently low to be verdant and fertile to the summit, but lofty enough to invest the landscape with a sort of mountain character. Of late years I have often visited the Welsh Borders, sometimes extending my excursions far into the heart of the principality, but generally remaining near the dividing line, and I have come to the conclusion that, taking that Border land as a whole, even England, the prettiest land under the sun, has nothing more charming. Often when far away my thoughts go back to those quiet woodlands and rich valleys, which, once seen, make an impression that lasts as long as life. One brilliant Saturday afternoon, in July, 1886, after a long spell of broken and stormy weather—having wandered about picturesque Abergavenny in the earlier part of the day—I got out of the train at Pontrilas, the Junction for the Golden Valley Line, and thus made my first acquaintance with a part of Herefordshire, which, previously unfamiliar to me, I have since been fortunate to visit many times in bright sunshine and in dark cloud, in warmth and in comparative cold. As sometimes happens in our humid climate—though it must never be forgotten that to that coolness and humidity we owe our unsurpassed verdure—the afternoon on which I first saw the Valley of the Dore had become cloudless, while the rain of the preceding week had thoroughly cleared the air and freshened the foliage. Every object stood out distinctly and sharply, and as the train dragged its weary length along the Valley, it would have required little effort to fancy that the eye rested on the Happy Fields of the Blessed. Never since that afternoon have I passed along the Valley with nature and weather in such perfect concord, never have I again seen such a clear sky, nor have I experienced so genial and invigorating a temperature; indeed my first visit was paid on one of the six perfect days, as Lord Lytton happily called them, of an English summer.

Roscoe, in his charming work on North Wales, thus feliciously described his expedition into the district.—"From Moccas Park, crossing the brow of the intervening hill, we are tempted to descend into the far-famed Golden Valley, whose luxuriant vegetation and gay yellow flowers well deserve such a fairy tale name."

It was soon clear that whatever the charms of the country, the railway service left much to desire. Only three trains a day each way, and, fortunately perhaps for the tourist, their speed would not alarm a respectable stage coach. The engine is unmistakably ancient, and goes wheezing along in strange fashion, while there is a curious nonchalance in the manner in which the passengers are looked after that makes one confess that in Sleepy Hollow time is of no particular value, and if the train is forty minutes late reaching Dorstone, the quiet terminus of the line, or stops to pick up passengers, or puts them down by the wayside, no one will complain. The little shaky train once actually halted to allow the passengers to watch a cricket match, and on another occasion a party of Golfers was taken up not exactly at a station. But the courteous secretary of the line assures me that no one need complaim, for one train actually runs through at the rate of twenty-two miles an hour, when not delayed that is, and after the opening of the extension to Hay, which is shortly promised, everything will be improved, and trains will not be shunted as now, nor will delays be so many and wearisome. Well, so be it, always provided that the good time coming does not destroy the character of the valley, and although developing trade lead to the sweeping away of that quiet beauty which invests the Golden Valley with peculiar charms. A few weeks ago, when at Hay, I noticed to my dismay that the extension to that town was rapidly approaching completion.

Perhaps it will be better to describe the valley systematically and to approach it along the noble high road from Hereford, the busy and flourishing old city, which continues to be the centre of shopping and marketing for the South Welsh borders. Passing from Hereford, over Wye Bridge, not forgetting to look up and down that beautiful stream, and taking the Peterchurch-road there lies before us a vast plain—the Wye Valley, verdant and fertile, abounding in well-grown timber, splendid orchards, and carefully cultivated fields; a country worthy of the enduring memorial, which the lamented Dr. Bull, of Hereford, built up in the Herefordshire Pomona, one of the noblest contributions to scientific fruit culture that ever came from any pen. For some miles nothing of importance except the graceful tower of Belmont Priory, presents itself, and the country continues to be a reproduction of much of Salop, Worcestershire, and Gloucestershire. At last the eye rests upon the square and massive tower of a huge church to the left, and in a few minutes a vast pile comes into sight—the majestic church of Madley. Like most very large old churches, it is vulgarly called an abbey, but has no claim to that distinction, nor to that of priory; it is simply a parish church, which had at one time an extensive establishment of chantry priests. On entering the sacred building one is surprised, not only by the size of the interior, but by its perfect architectural proportions, and the exquisite taste with which it is maintained. A glance shows that Mr. Edgar Pratt, the vicar, is proud of the glorious edifice with whose charge he is entrusted, and that he lavishes upon it that loving care, which only a man of culture and refinement could give it. One cannot help regretting that such a spacious building should be hidden in a tiny village, in a district, where, as is the rule on the Welsh Border, most of the inhabitants are Nonconformists and the reverse of friendly to the Established Church, and that a pulpit orator of such impressiveness as the genial and accomplished vicar should preach to half empty seats, when many large towns have to put up with inferior churches and indifferent preachers. Looking towards the altar or communion table there is, on the right, a side chapel of magnificent proportions, and equal in dimensions to many a large parish church; the chancel is also large, and terminates in a splendid apse. Under the chancel a grand crypt, in excellent preservation, lies concealed. High Wycombe Church is a noble building, and is said to come eighteenth on the roll of English parish churches as regards size; Madley Church strikes me as being very little smaller, so that it would probably rank somewhere between twentieth and thirtieth. Beyond Madley, which is a little over six miles from Hereford, the country rapidly becomes broken, and before long a line of picturesquely wooded heights is seen, the northern or north-eastern boundary of the Golden Valley. Two ways lead to it—a fairly good road to the left, which turns out of the middle of Madley, at right angles to the high road, and makes a wide detour, reaching the valley at Vowchurch, or the main road from Hereford to Hay can be followed for two miles beyond Madley; it should then be quitted, and the tourist should turn sharply to the left, and go straight to the foot of the hills, and climb the steep ascent of Stockley. If the former be taken, the character of the country alters very little; there is the same succession of magnificent

hedgerow and park timber, narrow winding lanes, immense orchards and lawn-like meadows, which never lose their freshness in the driest summer, although South Dorset may be brown and bare, and dust may be lying an inch thick in the roads there. The deep, tenacious clay of Herefordshire and the frequent showers preserve the beauty of the landscape however much other districts may suffer, and Dore Valley, from its situation among the hills, has no cause to complain of dearth of water; even in the summer of 1887 there was nothing approaching a drought. Should the first route be chosen, that passing the west front of Madley Church, it would be better to make a little detour to St. Kilpeck, a famous and singular Norman church near the Abergavenny and Hereford line, and close to St. Devereux. St. Kilpeck is a gem, not distinguished for size, but for its splendid preservation and the little injury it has sustained at the hands of church restorers, who have been content with piercing a fresh window, admitting more light and not greatly disfiguring the edifice, though not in harmony with the original design. St. Kilpeck is small, and stands at a little distance from the high road, in a field indeed; on approaching it, the singular beauty of the south doorway with its rich carving arrests the attention. The body of the church is massive and imposing, but the finest effect is from the west; looking to the altar the eye rests with peculiar satisfaction on three perfect concentric arches, the largest at the entrance to the chancel, the smallest near the east window. The chancel is most beautiful, and the massive Norman walls and small windows are in keeping with each other. The exterior of the church is fine and imposing, and adorned with lovely tracery, and shows little signs of wear; indeed, for all one sees, St. Kilpeck may last many a century longer to show our descendants how well the Normans did their work.

Retracing our steps to Stockley Hill, six or seven miles from St. Kilpeck and ascending to the summit of that steep ridge, we, before long, reach a spot where the road rapidly begins to descend, and half-an-hour takes us into the middle of the Valley near Peterchurch. Just after passing the top of the ridge, if the atmospheric conditions are favourable, the eye catches exquisite glimpses up and down the valley, and even over its southern boundary into the Black Mountains, towards Abergavenny, in the one direction and Brecon, with its three lofty Beacons, in the other. Peterchurch, a pretty little village, with nothing stirring, does not delay us long: the railway station, for it actually boasts of one, is seldom busy, and the offices of the kind-hearted Secretary of the Golden Valley Line are so little conspicuous for crowds of business callers that one hardly wonders that it does not pay to run trains at higher speed.

The Valley, stretching a dozen miles fron Pontrilas to Dorstone, has nothing remarkable beyond the lovely scenery, which I am attempting to describe, except three churches of more than ordinary importance:—Peterchurch, Vowchurch and Abbey Dore, of these more anon. At present a few words are called for about the peasantry, who form the mass of the population: Many have an unmistakable Welsh accent, although few bear Welsh names and none understand Welsh; most indeed have never been in Wales, though living on the borders of the land of the Cymry. Professor Freeman has happily pointed out that the people of many parts of Wales, for example near Tenby, are not Welsh, but I do not think that he draws attention to their not admitting that they are Welsh. One day near Llanthony I asked a labourer, whose strong Welsh accent left his birthplace in no doubt, if he was Welsh, "No!" he replied very good naturedly, "I am not Welsh, I am a Radnorshire man born and bred. You must go to Brecon and Talgarth for Welshmen." At Builth, in Radnorshire, however, notices are still printed in English and in Welsh, and sometimes in the latter alone, which is somewhat inconvenient to strangers.

Wages are painfully low, not more than ten to twelve shillings a week, and the standard of living is deplorably poor. This is partly due to the absence of resident wealthy families, partly to the want of trade and enterprise. It distresses one to notice that in districts where nature has been so lavish, the inhabitants are often poor in a degree, and that resident families of consideration are seldom found. Many of the gentry of this part of Herefordshire have suffered severely from the agricultural depression, and at best the possession of a small estate of 800 to 2,000 acres, if heavily mortgaged, as is often the case, is no great matter from a money standpoint. The unhappy Squire, reputed to be rolling in riches, and with a good county position to keep up, knows that an income of £400 to £600 will not do much, although he may be the envied master of an ancestral hall and a well-kept park. The Golden Valley would gain by the arrival of a dozen families of means. Why do not more of the well-to-do classes, who are tired of large towns and anxious to enjoy life in one of the most charming districts of England, find out the Golden Valley and make it their home? The cottages are falling into decay, and there is an air of squalor among the peasantry reminding one of Brecon and other Mid-Wales towns. Different types of people present themselves and the curious visitor sees traces of successive waves of population.

Peterchurch or Llanpeter, still the most important place in the Valley, was, my friend the Rev. Willis Lambert, the Vicar, tells me, the seat of large iron works, employing 200 men a couple of centuries ago: a mound is all that remains of this past magnificence and importance. The church from the outside only strikes one as large and massive, with a square tower, surmounted by a lofty but not particularly beautiful spire, which is, however, a conspicuous object for a long way round, and sets off the scenery, although lacking the graceful tapering proportions of St. Andrew's at Worcester. It, nevertheless, from a distance, where the eye cannot perceive its want of ornament, is an object one would regret to lose. The interior of Peterchurch is singularly impressive: smaller perhaps than one expects from outside inspection, but in admirable preservation and reverently kept. Looking towards the altar the same succession of massive Norman arches and the same splendid chancel as at St. Kilpeck offer themselves, although the church is plainer, the carving inferior, almost non-existent, and there is a scarcity of beautiful tracery and no imposing doorways.

From Peterchurch the route is easy to Vowchurch, the next station towards Pontrilas. Here an unexpected treat awaits us. When the visitor reaches the church he sees a plain, unpretending little building, with no lofty tower, grand porches or superb chancel, indeed from the outside a common place old parish church, one of that large class most suitable to thinly inhabited districts, but which can be seen in five thousand other places. Fortunately my kind friend Mr. Pratt, of Madley, had prepared me for what made Vowchurch unique, so that on entering the unpretending door I looked round with astonishment. The building contains a number of stupendous cross beams and uprights, looking something like the framework on which the sides of a large wooden house might rest. The wood

of the beams is dark and has evidently seen long service, but promises to last many a year. The curious part of the matter is that the walls and roof do not seem to rest *upon* these tranverse beams. Unfortunately the Vicar, my friend, Mr. Bevan, a man of superior intelligence and naturally proud of his singular church, could give me no explanation. No record, as far as curious and repeated inquiries disclose, exists of the time when the beams were put together, nor of the reason why they were erected. The first impression is that these beams and uprights were the framework of a large wooden church, and that the sides, having become unsafe, were removed, and a casing of stone substituted. But the wooden skeleton can hardly go back three or four centuries, and yet in less time all record would not have been lost of their erection. Stone must always have been abundant in the district, and rude stone walls would have been as cheap as wooden ones. It is a mystery, and I cannot solve it, though probably the information could be found, did one only know where to look. Two other churches somewhat similar to Vowchurch exist, or till recently existed, but I am unable to say anything about them. One is said to have been pulled down, and the other, a clerical friend, who has seen it, tells me, is very little like Vowchurch, so that I must come back to the point from which I started and repeat that this church is practically unique and worthy of a visit.

On the other side of the Dore, not more than a bow-shot, there is a low, solid and unpretending church—Turnastone; it too is of great antiquity and dates from remote Norman times. From Turnastone or Abbey Dore, the distance is trifling to Llanthony. Starting from the former, which is the more distant, the road rapidly ascends a low range of hills to Michaelchurch, and then makes a sharp bend to the left to Longtown, from which a good bridle path ascends by easy zig-zags to the top of the Black Mountains, and then rapidly descends leading direct to the beautiful remains of the Priory Church, which on a bright sunny day, can be distinctly seen at the bottom of the Valley, projected against a background of fine timber. The Priory has many remarkable architectural features, in addition to its glorious site, the most notable, as I have said above, being the absence of capitals to the pillars. From the ruins, which are admirably kept, to Llanvihangel Station is little over an hour's walk, and in fine weather the scenery is exquisite. Though the distance from Turnastone to Llanthony is small it is not easy to find people who have gone from the former, or *vice versâ*, and even the Golden Valley clergy talk of Llanthony as being far, far away, over the mountains, quite in another world.

Another grand ecclesiastical building remains—the transepts and chancel of Dore Abbey. This church stands half way between Pontrilas and Vowchurch, in the midst of the same characteristically English scenery. The second time I saw it I started on my journey from Peterchurch station. The Golden Valley train waited a quarter of an hour at Vowchurch to take breath, and on approaching Abbey Dore Station another delay occurred. As my time was limited I descended and walked along the line to the station, where I gave up my ticket to a most obliging official, who regarded my proceedings as a matter of course. Then I wended my way to the Abbey wondering how long this primitive manner of managing a railway would continue. Arrived at the Abbey I was struck by the background of woods and hills, which made it unique, as every grand natural scene almost necessarily is. On entering the church I noticed that only a small part of the once vast whole remained—a splendid chancel with retro choir and spacious aisles, and two transepts, the last greatly in need of restoration. Strenuous exertions are being made to collect funds for the restoration of the Abbey Church, including the building of a nave in keeping with the rest of the edifice, but as not less than £40,000 would be required, there is small chance of success. The nave is entirely gone, and some authorities doubt whether it was ever finished. Examining the west wall of the transept one sees that a vast arch has been filled in with masonry as though, at the demolition of the nave, the remainder of the edifice had been adapted to divine worship and made air and water proof. Moreover, in a line with the choir there are, at what must have been the commencement of the nave, two huge squat pillars, in splendid preservation. There they stand in the open air, the remains of the demolished nave, or the commencement of a stupendous work never completed; who can decide?

Recent explorations are said to leave no doubt that the nave was built and completed, though history holds no record why and when it was dismantled. Two hundred years ago this grand old church was a roofless ruin, and was put into decent condition by the Viscount Scudamore of that day. He also built a lofty tower, surmounted by a small steeple, in the corner between the chancel and the south wall of the transept; this addition is handsome, but not in harmony with the rest of the architecture: moreover it ought to stand at the crossing, or intersection of the chancel and transepts. On leaving Abbey Dore one cannot help wondering that a valley so remote and so much exposed to Welsh incursions should abound in ancient ecclesiastical buildings. It is wonderful indeed how rich many parts of the land continue to be in churches and castles, in spite of the ravages of time, fire, war and Vandalism. It must have struck many persons as singular that in the baptismal service the officiating clergyman is directed to immerse the child, unless the parent certify that it is too feeble to bear the shock. Probably few people have seen a baby immersed, and most churches have not a font of sufficient magnitude to make immersion practicable. It is interesting, in certain Herefordshire churches, to find a huge stone font so large that there would not be the smallest difficulty immersing a child two or three years old. One of these survivals of the past is in Madley church, another at St. Kilpeck, and a third at Abbey Dore. Of course infants are not now immersed, and the water for baptism is placed in a small vessel standing in the immense font.

The whole valley abounds in ill-defined remains of camps, four and five being found in a single tiny parish, but all small and uninteresting, and some require sharp eyes and a glowing imagination to detect after they have been pointed out by well-informed natives; as a rule the inhabitants are not well-informed, and are reserved and dull, painfully less intelligent, worse educated, and not so prosperous and self-reliant as the members of their own class in south-east Dorset, whose condition has no doubt been greatly influenced by the rise and growing importance of Bournemouth.

Retracing our steps to Peterchurch, and following the north side of the railway as far as Dorstone, at present the terminus of the little line, and turning sharply to the right, let us follow the road to the summit of the elevated and commanding ridge near Arthur's Stone and Meerbach. Every step unfolds fresh beauties, and if the day is clear and sunny, glances backward show the valley under most

favourable conditions, with peeps far away into Monmouthshire and Breconshire. The ascent is not very abrupt nor long, moreover for miles along the Dore Valley the road rises towards Dorstone. When the top of Meerbach is reached we are at a much greater elevation above the Wye than we expected. On the top of Meerbach, a little way from the high road, there are some fine stones, which the late Rector of Dorstone counted to the number of thirty or fifty. They are not very large, and some have been removed, and others broken up, but as they are prehistoric remains they possess a good deal of vague interest for the antiquary, and repay a special visit. The little intercourse between the Golden Valley villages almost taxes one's imagination. I am assured that some of the inhabitants of Peterchurch have never wandered as far as Vowchurch, a distance of two miles, and still regard the people of the latter as semi savages. One day this summer I took a friend's carriage from Turnastone over the hills to Timber Lines and Stockley, and found that I knew the country far better than the groom, who told me that he had never been outside the Golden Valley before, except by train to Hereford. Two years ago, at the time of the Colonial Exhibition, Mr. Aubrey Taunton and Mr. Powell, the present Rector of Dorstone arranged an excursion to Town, taking with them 1400 of the natives, the adventures of the latter were innumerable. Mr. Powell has an amusing trick of walking with his hands under his coat tail pockets, gently agitating that part of his clothes. Suddenly in the middle of Piccadilly he noticed fourteen of his parishioners walking as he was walking, they stopped when he stopped, faithfully imitating his movements. After a time they invaded a jeweller's shop to buy eighteen penny gold bracelets and chains for their wives and daughters, somewhat to the consternation of the shopkeeper. Near the Mansion House their patriotism was outraged by the want of good manners of the city police, who did not touch their hats to Mr. Powell, although he is a Herefordshire magistrate. This led to a good many comments on the part of the Golden Valley men and to some audible murmurs on the bad manners of the Metropolitan police, which the latter showed some signs of not taking in good part. One of the excursionists was lost, and was actually picked up on Westminster Bridge. At last, after an absence of twenty-seven hours, the party returned safely to their homes, very tired and with much to talk about for many a long year.

Looking from Meerbach across the picturesque valley towards Hereford, if the atmospheric conditions are good, the scene is one of such beauty that even the Welsh Borders have few superior. Descending the slope towards Bredwardine and Moccas, the same exquisite landscape continues, but with few features of special mark. It is generally admitted, and much regretted, that the gleam of water is rare in English scenery, and so it is with unwonted pleasure that, suddenly, we reach a spot where, a few miles off, we see the Wye directly before us—a silver streak in an ocean of verdure, and projected upon the water the outline of a few tall trees can be made out. Then we gradually descend, and as we continue our onward course the plain is seen to be more broken than it looked from the top of Meerbach. Modest elevations show themselves, and houses begin to appear. When at last we get to the main road from Hay to Hereford, though many miles nearer the former than at Madley, we turn towards Hereford; the hills to our right are seen to be clothed with magnificent timber, while the valley is carpeted with smooth turf. Before long the road reaches the beautiful park of Sir George Cornewall, and continues to skirt the hills for some miles; finally it makes a sharp bend to the left, and in due time we get back to Hereford.

BOURNEMOUTH FOR CHILDREN.

By Horace Dobell, M.D., etc.,

consulting physician to the royal hospital for diseases of the chest, london; the royal albert orphan asylum, bagshot, etc., etc.

Judging from the number of letters of enquiry which I receive on the subject of this paper, it would seem that the rising generation of doctors are not so well posted up as they wish to be on the qualifications of Bournemouth as a health resort for children. In my work on "The Medical Aspects of Bournemouth," I had so many other important matters to discuss that I did not give so much prominence as I ought to have done to the speciality of the place for delicate children; but I did say, when speaking of its freedom from "marine cachexia" in chapter iii., "The poor children to be seen in and around Bournemouth are remarkably well-developed, healthy, and good-looking—the healthiest I have seen at any sea-side place; and it is well known that Dr. West, the eminent founder of the Children's Hospital in London, was so impressed with the beneficial effects of Bournemouth on delicate children, that he established a school for them, which has for many years been a very great success." I might have added that the managers of the Alexandra Hospital for Hip Disease, London, selected Bournemouth for their sea-side branch, and that it has proved most satisfactory in aiding the recovery of these troublesome cases.

But I do not know any evidence so good as that of the Bournemouth Orphanage, to which the Sisters of Bethany in London send destitute children for care and education. The beneficent effect upon their health is wonderful. There is no prettier sight in this neighbourhood than these nicely clad children, who are to be met in troops of twenty to fifty, in charge of one or two sisters—rambling unrestrictedly through the heaths and pine-woods, or along the sea-beach—laden with country treasures, their ruddy faces beaming with health and pleasure—and testifying to the strength of their limbs and lungs by their agility in running up hill and down, and jumping over banks and bushes. I never saw a host of poor children who looked so full of joyous life as these.

Some thirty years ago there was a Dr. Mainwaring practising at Bournemouth, who made many judicious observations on its medical aspects; and I find among these the following note about children, as the result of ten years' experience: "As a resort for delicate and rachitic children it is unrivalled. The sands afford ample scope for amusement and exercise; the children dig and shape it into various forms and devices, which prove a never failing source of attraction to them; at the same time they are situated in a dry, warm playground, being sheltered by the wood-crowned cliffs. I have often been surprised and delighted by the rapid improvement that has taken place in pale and sickly children from India, and in children suffering from rickets in an aggravated form . . . The little sufferers have been changed from a state of listlessness to one of activity and comparative strength, and from the misery of fastidious appetites to craving heartiness."

Anyone who studies the specialities of the place will easily see how peculiarly it is suited for children, in addition

to its fairly, but not too mild, marine atmosphere, and extraordinarily porous, dry, sandy soil, from which it is impossible for moisture to appear again, so rapidly does it percolate beyond the reach of surface influences. The beach is absolutely free from danger, for the sea never recedes far enough to expose rocks or islands of sand from which children may find it difficult to return when the tide flows in, and there is always a broad expanse of dry sand between the "edge of the waves" and the cliffs, from which egress is safe at all states of the tide. The shore is completely protected from the north, and to a large extent from the east, by the crescentic wall of cliffs, rising about 120 feet. When the air is not fresh enough on the beach, there are fine breezy walks on the tops of the cliffs; and when these are too windy or too cold, there are the pine-woods, traversed by excellent gravel walks and roads, and easily accessible by the different chines or ravines running from the woods to the sea; or, when it is advisable to get away from the sea-side altogether, there are the lovely "Talbot woods," which still contain over one million pine trees. They are always sheltered, although permeated by sunlight, and afford innumerable safe walks, free from underwood, and always kept dry by their bed of pine needles.

But one of the greatest advantages for children is, in my opinion, the abundance of open heathland in all directions round Bournemouth, the air of which is most invigorating. The roads which cross these heaths to the neighbouring pretty villages and farms, are admirable for horse, pony, and donkey exercise, and they are made good use of now by the riding masters, with their troops of boys and girls and older pupils, who are to be met in all directions. Another feature very characteristic of Bournemouth, and fully appreciated by parents who bring children to the place, is the gardens which surround the houses. Instead of the children having to go straight out of the house into the road or street, as in most sea-side places, nearly all the best lodging-houses, hotels, and boarding-houses, are surrounded by gardens and grounds, into which the children can run with safety. Another important point is the abundant supply of unquestionable milk, eggs, and butter from the large Hampshire and Dorset farms, the dairies of which are under close medical inspection, and I see from the agricultural reports that the "Hampshire Down mutton" is now considered superior to the famous 'South Down,' both in size and quality.

Within the last year a large, well-arranged, tepid sea-water swimming-bath has been added to the institutions of the town, where swimming is well taught by experienced teachers of both sexes, and aquatic entertainments are given for the amusement of children.

I need not go further into details; those I have mentioned sufficiently indicate the peculiar suitability of Bournemouth as a health resort for children of all ages, of which the experience of the local medical practitioners is entirely confirmatory. Perhaps the most strikingly *curative* effect of the place is seen in catarrhal children—children whose parents bring with them a long record of recurrent tracheal, bronchial, and broncho-pneumonic attacks, which their doctors have got tired of battling with, so obstinately and inevitably have they returned, getting longer and longer in their stay, and less and less satisfactory in their clearing up, often consummating in an attack more severe and more deeply-seated than the rest, and more threatening in the prognosis.

Many such cases I used to send to Bournemouth with good results, during my London practice, but until I came to live here, and could watch their progress, I was not prepared for the unmistakable way in which they clear up under local influences, with a comparatively small amount of medicinal treatment. Many children and grandchildren of old patients have been sent to me with ominous warnings from their medical attendants and friends, as to the trouble they were likely to give from their frequent attacks of catarrh, and the difficulty of getting them clear of vestiges and saving them from phthisis. As a general rule, after putting them well to rights at starting, laying down simple rules for their management, and taking care that they were in appropriate lodgings, I have seen very little more of them, except to meet them galloping along the country roads on their ponies, tearing past on their tricycles, or wandering with their friends in the pine woods or along the shore. Many of those who were old enough have been placed in the various excellent schools, whose managers are accustomed to the care of delicate pupils, and they have remained term after term, without requiring more medical attendance than an occasional visit from the school doctor.

It is an unspeakable advantage to have such a health resort for young people in our Island, for there can scarcely be a more painful form of refined cruelty than to order children abroad. It is rarely practicable to carry out the order; and thus parents are made to feel that a step, which has been represented to be of the utmost importance to their children's lives, cannot be taken. And if the step is taken, it must generally be at the sacrifice of the domestic comfort of a whole family, and very often at the cost of neglecting some member of it requiring as much solicitude as the so-called "invalid." I consider, therefore, that I am discharging a public duty in thus emphatically calling attention to Bournemouth as a health resort for the young. Fortunately, I am in a position to do so without exciting the suspicion, which might attach to a younger man, of being influenced by personal interest. I ought to add, that under the head of *Bournmouth*, I include Boscombe and Southbourne on the East, and Westbourne, Branksome, Canford Cliffs, and the upper parts of Parkstone on the West, representing a coast line of over six miles.

MONTHLY REPORT ON NEW PREPARATIONS,
FOODS, DRUGS, INVENTIONS, ETC.

Bourboule Waters (Ingram & Royle).—The mineral waters of Bourboule enjoy an exceptional position, in that they contain arsenic in addition to their other ingredients; hence their great value when a mild alterative is required, or a prolonged course of arsenical treatment. The waters are pleasant to take; they are bright, sparkling, and pure. The indications for their use may be generally specified; they are particularly suitable for chronic skin diseases of a non-inflammatory type; in chronic rheumatism, and in all indurated swellings, uterine hyperplasias, they will also be found of great advantage. The waters are imported into England, and may be taken in doses of from one to three glasses per day, after meals.

Antrophors (Thos. Christy & Co.)—Under this name a medicated bougie has been introduced by Messrs. Christy and Co. It consists of a spiral spring from five to six inches in length, terminating at one end in a large ring. It

is coated with any medicament desired, the medicament dissolving when introduced. The bougies are very pliable, and so covered that the urethra cannot be injured. The original intention of the inventor was to treat gleet, and to bring the active agent into contact with the local affection, and to stretch the urethra, so as to expose any diseased follicle. The antrophors have been extensively used in America and Germany, and have been practically tested in England by one of the surgeons to St. Peter's Hospital, eighty cases being treated in this manner. One case of seven years' standing was cured by four applications. The greatest benefit has been obtained from bougies made of five per cent. thallin. In a certain number of cases the bougies failed to produce any good effect, but this was because the deep urethra had not been reached. The directions are simple. The patient should first make water, so as to flush the urethra, then the bougie, after being dipped in water, should be introduced, remaining in from five to twenty minutes. We think it advisable the surgeon should introduce the bougie in the first instance himself, and keep the patient under observation, because, as in the introduction of a catheter, the urethra has to be made familiar with the presence of a foreign body; and, moreover, the patients require instruction as to the method of introduction. In certain cases it is well to use a ten or four per cent. cocaine ointment, so as to diminish urethral sensibility. All movement of course must be suspended while the bougies remain *in situ*, and therefore they should be used at night, and the patient can retire to bed after employing one, and thus all danger of fever will be prevented. There are various forms of these appliances: 1. Urethral. 2. Prostatic. 3. Uterine. All these forms can be filled with any desired drug—as iodoform, sulphide zinc, nitrate of silver, acetate of lead, subnitrite of bismuth, etc., and they can be made of any length. They may be applied not only to the urethral and uterine canals, but to any channel, as sinuses, fistulas, etc.

Pitkeathly Mineral Waters.—We are pleased to hear that the Pitkeathly waters are becoming still more popular, and are more largely used than ever. The dietetic value of good water cannot be over-valued. Knowing the source from which these waters are derived, we can confidently recommend them. These waters can be used for ordinary table purposes, and as they are aërated, they are tonic, refreshing, and stimulating. Pitkeathly mineral waters have enjoyed a repute for their medicinal properties for over a hundred years, and have been very largely prescribed by Scotch physicians for gastric derangement, habitual constipation, sluggishness of the liver, plethora, gouty and rheumatic states.

Reviews.

Breakdown of the Hospital System. By J. Francis Sutherland, M.D. Edin.

This is a very thoughtful and suggestive pamphlet, and the author must have devoted much labour to work out the statistics which fortify his assertions. Of the facts, we may say that they are mostly indisputable; some of the inferences are more debatable. The author clearly establishes his main theory that the present hospital system has broken down, and he condemns the inadequacy of the provision for the sick poor in the great centres of population; also the system of government, which is antiquated and inefficient. The system of admission is bad: many who are in-patients should be out-patients, or treated in pay wards, whilst many who are out should be in-patients. The subscriber's line or governor's recommendation leads to a preference being given to cases which are not by any means the most deserving. Dr. Sutherland demonstrates, by carefully compiled statistics, that many, if not a great majority of hospitals, have an ordinary expenditure in excess of the ordinary revenue. This leads to an annual deficiency, which is made up by absorbing legacies or bequests left during the year, or by drawing upon the capital accouut. Not only land, but other investments, have given bad or indifferent returns, and hence the income derived from invested capital has been in many instances seriously diminished. The author, who fully appreciates the great work which philanthropy has done, contends that it cannot much longer contend with the present and prospective wants of that large section of the community whom illness places for a greater or less time *hors de combat*, and he thinks that a new departure is needful in regard to the administration of such institutions as partake rather of a national than of a local character. He strongly advocates the control of a central representative authority for districts of the country; without such a body, the wants of the community as a whole cannot be known, and adequate provision cannot, in consequence, be made for that want. Dr. Sutherland establishes by careful statistics the great discrepancies which exist in the hospital accommodation for different towns and counties, and we confess his figures are somewhat startling. Thus in Ireland the ratio of beds to population is 1 in 870, whilst in Wales it is only 1 in 2,340. In Durham it is 1 in 1,930; in Edinburgh, 1 in 410; in London, 1 in 420; in Dublin, 1 in 140; and in Leeds, 1 in 1,020. The average is about one bed to every 1,000 of population. The anomalies portrayed in these statistical tables cannot fail to strike the most casual reader. Would these anomalies exist if there was a central representative body, with powers similar to those of the Local Government Board, or of the Education Department? The cost per bed in various hospitals varies from £100 to £35 per annum. No attempt, under the present helpless and divided system of management, has been made to adjust the number of beds for a district of the country, nor to take the special circumstances of communities into consideration. The attempt which has been made by the Local Government Board to deal with infectious diseases has a decided bearing on the practicability of meeting the wants of those struck down by disease other than zymotic.

The breakdown of the hospital system is at present most accentuated in London, where, combining the workhouse hospitals with those supported by philanthropy, there is actually provision for 1 in 250; but it is stated that nearly half the wards are closed, and that the aggregate income falls short of the expenditure by £100,000. Probably, many causes contribute to this unsatisfactory result, which has its reflex in the provinces. Dr. Sutherland deals with many of these causes in detail, and then lays down the doctrine that mortalities in the main should decide hospital accommodation. He contrasts the remarkable anomalies which characterise the distribution of hospital accommodation; he recognises the fact that many of the hospitals in large towns are partly filled by people coming from rural districts, and would make due allowance for such facts. The method of admission to hospitals by lines, or recommendations, is strongly deprecated. The filling up beds with curable cases, and the practical exclusion of incurable

ones, which is so generally adopted, no doubt makes the annual report more showy, but is it fair to the applicants to establish a preference for certain classes of disease pleasing to the hospital authorities? That chronic and other genuine cases of disease are not to be cared for in our voluntary hospitals, is rather a strange doctrine to hold in a Christian community; it is not the doctrine held in France, in Germany, or in Italy, where ample provision is made for all forms of disease. Dr. Sutherland suggests that the Liverpool and Manchester workhouses are doing as great, if not a greater work, than the voluntary hospitals, and he further contends that under a better system there should be no difference between voluntary and rated hospitals.

Dr. Sutherland has made out an exceptionally strong case against the existing system of hospital management, and suggests the following means of reform:

First, and most important, would be the setting up of a *central authority* for a large area of the country—this body to be in touch with a Minister of Health, when such a necessary official is created, or other high State official.

Second, the establishment by the central authority of a *medical bureau*, where the examination of applicants for the hospitals would be conducted by practitioners of experience, and where enquiry, not of an inquisitorial kind, would be made by a body such as the Charity Organisation Society. The number of vacant beds in each hospital could be learned here daily without any trouble.

Third, the hospitals at present attached to the workhouses and poor-houses to be divorced from them, and to form part of the hospital system. These might be used for chronic and incurable diseases.

Fourth, the establishment of convalescent homes, and sanatoria in the country and at the sea-side.

With Dr. Sutherland's general views we are disposed to agree, but there are some aspects of the case which appear to have escaped his attention. Any material increase of hospital accommodation must be at the expense of the general practitioner, who already finds that he is liable to be deprived of his patients, not because they are unable or unwilling to pay moderate fees, but because they expect to obtain a larger measure of skilful treatment from the hospital surgeon or physician. It is a question whether much of the work done at our large hospitals is one whit better than that which could be done by a large number of practitioners who have not the privilege of being members of the staff of the hospital. The statistics of capital operations show that a patient has rather a better chance of recovery outside than inside a large hospital, where there is a greater aggregate of disease. Mere numbers must not in any sense be deemed a test of efficiency. It may be reasonably doubted whether the out-patient at a large hospital—who has perhaps spent a couple of hours waiting in a crowded room for his turn to have two or three minutes' conference with Dr. A. or Surgeon B.—gets really better advice than he would have from a less distinguished practitioner, who could devote a considerably longer period of time to the investigation of symptoms.

With regard to pay-wards, if instituted, patients should have the privilege, at their own discretion, of being attended by professional men who are not members of the official staff, especially if the hospital is aided by Treasury grants. We cannot help thinking that there would be a serious falling off in voluntary subscriptions if the subscribers were deprived of the control of an institution, which their generosity had called into existence and maintained. Special hospitals would probably not consent to be snuffed out, but would pursue an independent course. We should be inclined to favour hospital reform, not by increasing the scope of hospital work, or by any large extension of hospital accommodation, but rather by restricting the benefits of hospital treatment to those who cannot be equally well attended at their own homes, and this refers more especially to the out-patient department. The unhealthy competition between various charitable institutions to base their claims for public support on more members is most undesirable; the quality rather than the quantity of work done should be the test of a hospital's usefulness. The establishment of small cottage hospitals in districts where the want of accommodation is chiefly felt; a strict economy in the management of the large hospitals which fulfil a national function; the weeding out of unsuitable applicants, either because they are in a position to pay for medical attendance, or because their complaints are of a trivial character, and can be dealt with as well by the club doctor or the officers of a provident dispensary; the establishment of provident dispensaries for working men and their families, are means which might be tried with advantage before invoking State aid and State control.

We can heartily commend Dr. Sutherland's pamphlet to all who are interested in hospital management; it is a painstaking effort to solve a difficult and complex problem, and its perusal will afford pleasure and instruction to all. There are many conflicting interests to be weighed, and many points of view from which hospital management must be considered. Any hasty or ill-considered scheme of reform, would not be unlikely to substitute greater evils for those which already exist, and might have a direct tendency to encourage thriftlessness and improvidence; the doctor is already called upon to do more work for nothing than any other member of society. Dr. Sutherland has undoubtedly proved the breakdown of the existing system, and his views are justly entitled to a frank and impartial consideration.

H. R. H.

Hunterian Lectures on Tension, as met with in Surgical Practice, Inflammation of Bone, and on Cranial and Intra-cranial Injuries. By THOMAS BRYANT, F.R.C.S., Consulting Surgeon to Guy's Hospital, etc. London: J. & A. Churchill. 1888.

THE present work contains the Hunterian Lectures delivered before the Royal College of Surgeons in June, 1888. Among some of the conclusions arrived at by the author are the following: That tension stands foremost amongst the causes of pain, and in inflammatory affections it is probably the chief pain factor; that where the causes are not inflammatory the tension to which they give rise will, if maintained, excite inflammation in the tissues affected; that the tendency of tension is to keep up or intensify the inflammatory action, and strongly to encourage its destructive influences; that—and this conclusion is so weighty that we give it in full—"that, as in wounds the slightest degree of tension is injurious, so, in their treatment, the use of the drainage tube, or due provision for complete drainage, is a point of such primary importance as to relegate to a secondary position the mode and character of the dressing which is employed, since a want of attention to the efficient drainage of a wound under every form of dressing is followed by the same result." Numerous cases are given showing the relief afforded by opening tense sheaths, dividing stretched

muscles, trephining shafts of bones, and the dental canal of the lower jaw, by puncturing a tense testicle, aspiration of joints, and by drilling and trephining for many bone diseases of both head and limbs. The severity of pain in bone disease is looked upon as a fair measure of the intensity of the tension. Cases are given showing that relief of tension may initiate a cure, even though the operation may, so to speak, only have been partial; thus we read (p. 41), "In many a large hæmatoma I have despaired of its absorbtion and a natural cure till I had withdrawn some of its serous contents and removed tension, when a rapid recovery followed. Even in large abscesses, and particularly chronic abscesses, the same result may be chronicled. An interesting case is also recorded of a medical man who tapped himself for a hydrocele with a small hypodermic syringe, only ten minims of fluid were removed, and yet the tumour gradually diminished and wholly disappeared. Though the needle wound oozed occasionally for some time, the cure is ascribed to absorbtion by the veins and lymphatics, relieved from overtension by the removal of so small a quantity of fluid. To relieve tension in the softer tissues of the body, the local application of leeches, local or general venesection, acupuncture, aspirations, punctures, and incisions, may be requisite.

Numerous cases are quoted of ostitis and necrosis resulting from contusion of bone associated with scalp wound, and the conclusion arrived at after seeing many fatal cases is "that all scalp wounds which lead down to bone should be dealt with, for at least a fortnight or three weeks, with much care; and that such cases should, if possible, be treated as in, and not out-patients, of hospitals, for that time." When local symptoms appear a free incision down to the bone where no wound exists, or a free separation of the pericranium where there is a scalp wound, always does good. A perforation sets the dura mater free from pressure and gives rest to collected matter, but nothing more. We are here warned that though the patient must have perished without the trephine, yet the merely having used it will not preserve him without every other care. If the fracture be starred, comminuted, or more than *slightly depressed*, the elevation of the depressed bone should be the rule of practice.

Chas. Atkin, F.R.C.S.

A Personal Narrative of the Euphrates Expedition of 1884. By William Francis Ainsworth. 2 Vols. Kegan Paul, Trench and Co. 1888.

Nothing is more touching than the untiring energy with which some men continue to work hard until old age, with all its attendant infirmities, is actually upon them. Dr. Ainsworth took his medical diploma sixty-one years ago, and has been busily engaged ever since, for a time in medical practice, but chiefly, we believe, in literary work. He was for many years editor of the once famous Colburn's "New Monthly," succeeding his cousin, Harrison Ainsworth, the great novelist. Now we find him giving the world a most lively, readable and scientific narrative of the famous expedition in which he played a leading part, and to which he acted as surgeon and naturalist. It is sad in reading a list of the officers connected with that memorable expedition to observe how few survive—at least eleven are gone to join the majority, while only four remain. We believe that no other complete history has appeared, and the present is actually the first that covers the whole ground traversed by the explorers. To most readers the name of Dr. Ainsworth must be familiar. We may say that these handsome volumes contain many allusions to subjects on which few men are so competent to speak. We cannot pretend to review a work that would demand for the purpose the limits usually allowed by the *Edinburgh* and the *Quarterly*: all we can do is to say that the style is graphic and readable, the anecdotes are charmingly told, the scientific details full and accurate, and the description admirable. Such a work splendidly crowns the long and distinguished career of the writer, and proves that to the end he preserves the indomitable energy and light heartedness which must have distinguished him during the years when he faced fever, danger, and a fierce climate in his love of adventure, and his desire to lift the veil from the Euphrates district. Explorations are not to be lightly entered upon, especially in rude, dangerous and sparsely inhabited countries. The adventures of Mr. Charles Augustus Murray, among the Pawnee Indians of the Far West, about the same time as Dr. Ainsworth was engaged elsewhere, are a case in point: Mr. Murray had to face dangers of climate, exposure to heat, wet, and dirt, and the assaults of noxious insects, to say nothing of bad and insufficient food. Dr. Ainsworth fared no better—fever and insects plagued him exceedingly, and the obstacles which he and his companions had to surmount would have daunted most men. A particularly valuable part of the work is the appendix containing a great number of admirable antiquarian, historical and scientific comments, which do the learned author great credit, and display vast stores of information, indeed some of them, brief though they are, represent the thought of years, and could only be written by a scholar of eminence, and of untiring perseverance. Some of Dr. Ainsworth's notes on Oriental diet and cooking are particularly interesting, and we have ventured to make free use of an account of a Persian luncheon in a long article on "Dietetic Eccentricities," which we are contributing to one of the larger reviews. We are very glad the historian of the Euphrates expedition is a member of our own profession.

An old Oxonian.

Short Notices.

Suggestions for a Plan of taking Notes of Medical Cases. By George F. Duffey, M.D. Dublin.

Dr. George F. Duffey has compiled in a brief and handy form a plan for taking notes of medical cases, which should prove useful alike to the student and the practitioner. Of course, in a large practice, it would be hopeless to attempt so complete a system of taking notes in the vast majority of cases, but a careful study of the suggestions, and a frequent reference to them is quite practicable, and would tend to a more methodical and systematic examination of patients than commonly prevails. The manner of arrangement is natural, and considering the small compass, the suggestions are remarkably complete, as no important element of diagnosis appears to have been omitted. The student who wishes to acquire a knowledge of the most important points to observe in case taking will find in Dr. Duffey's suggestions a trustworthy guide, and the busy practitioner can conveniently refresh his memory upon many points, which in a rapid examination of a patient might otherwise escape attention. If Dr. Duffey should, as we hope, find it expedientt to issue a third edition, we would suggest that its value would be enchanced if it were printed in a form to admit of its insertion in the usual visiting list.

H. R. H.

The Provincial Medical Journal,

FEBRUARY, 1889.

There are few things on which the generality of people are more imperfectly informed than on those concerning the weather, and hardly any on which it is more important that medical men, at any rate, should have some correct information. Only a few hours ago we saw in what purports to be a scientific periodical that the thermometer reaches 104° F. in Canada in the shade, and falls to 12° below zero. Now 100° is a very high reading for any part of Canada. At Montreal in 1875 the maximum was 87°, and the minimum 22.1° below zero, but readings over 75° were rare, and so were those below zero. At Port Stanley the highest in the same year was 81°, and in 1876 90°, while the mercury only six times fell below zero. At Quebec a maximum of 85° was only once reached. At Sangern 86°, with a minimum of 8.1 below zero. At Toronto 88° was once reached in 1875, but this was quite exceptional, the thermometer rarely reaching 80°. A Wiltshire rector once told me that he thought nothing of a temperature of 120° in his parish, nor of zero. He might as well have said that the men of Wilts. ranged from three feet in height to ten. Few people in England know what a minimum of 10°, or a maximum of 90° really does signify. We shall endeavour to compress into as brief a space as possible some facts, which will be new to many of our readers, but on which they can implicitly rely. We have been passing since the beginning of September, 1887, through a spell of almost continuously low temperatures, with heavy rain to begin with, then a long drought, and then again abnormal rain. Into the causes of this state of things we need not enter, nor, indeed, would it be easy to frame a good explanation. What are—let us ask scientifically speaking—the characteristical features of British weather? Just these: mild, but raw, damp, foggy, stormy winters, cool summers, and an overcast sky. Ours is not, on the whole, a wet climate, so far, that is, as the amount of rain in inches goes, though parts of Cornwall, Devon, Wales, the Lake District, the Western Highlands, and the Irish Mountains have a rainfall that would not disgrace a tropical Hill Country. All parts of the British Isles have a large number of rainy days, and, still worse, as far as concerns the enjoyment of out-door life, very many threatening ones. Most parts of the kingdom have a rainfall ranging from twenty-five to thirty-five or forty inches a year, distributed pretty evenly over the twelve months, but the rain falling on any given day is usually trifling in amount. Twelve hours of steady, heavy rain roughly prepresent one inch, so that the rainfall of Bournemouth would, were it continuous and heavy, be represented by twelve days and nights; that of Lincoln by eight or nine; and that of Staffordshire by seventeen or eighteen. Of course, however, tremendous downpours, though rare, are not unknown. One inch and a half usually falls on the wettest day of the year at every meteorological station in the United Kingdom, but not a year passes on which four inches do not fall at one or more stations. But vastly larger amounts may fall—at Black Hambledon, near Todmorden on July 9th, 1870, the rainfall exceeded nine inches, and at Scarborough on August 6th, 1857, the only rain gauge in the town was found to be running over, it held nine inches and a half; probably the actual fall much exceeded that figure, and it may be assumed that even in our temperate climate nearly twelve inches of rain may fall in a day, and three inches, at long intervals, have come down in a few hours in thunderstorms. On the Khashia Hills N.E. of Calcutta, 6.10 inches of rain are considered to represent the average fall, while at Kurrachee in the same vast country the fall is only seven inches. Even in our Lake district many stations register 100 inches a year, while one reaches 140, and another 175. Were our sky clear, and had brilliant sunshine instead of our normal laden canopy, it is probable that in most parts of England we should have to complain of drought much as they do at Madrid, and that too did our rainfall not diminish. But placed as we are, full in the course of the Atlantic currents, and surrounded by water, we have a damp atmosphere, a cloudy sky, and gentle rain on one hundred and fifty days a year in the south, up to two hundred or two hundred and fifty in the west and north. No day is counted rainy on which less than the one-hundredth of an inch falls, that is a ton to the acre. There is much less difference between a dry and a wet year than commonly supposed, for the driest season may have a few very heavy rain storms, and the excess of one part of the year is commonly counterbalanced by the deficit of another season. If the normal rainfall of a district is twenty inches, a departure of five inches either way is exceptional. At the same time the rainfall is that meteorological factor which, taking the year round, has the greatest tendency to depart from the mean, and even in England we may have a whole month without rain, and next year six or eight inches in the corresponding month. A season, too, may have in one year several times as heavy a rainfall as in the corresponding one of another year, but the annual fall never departs from the average to a very great degree, and it would be startling to find the rainfall double as heavy in the wettest year as in the driest on record, although over small areas such a thing may happen.

The prevalence of bright sunlight shows very considerable departure from the mean in different months and seasons. The greatest absolute amount is in the south of England, at Hastings and the Channel Islands, and ranges from one thousand five hundred to one thousand eight hundred hours, or five hours a day, the year through: nearly two-fifths of the time the sun is above the horizon. In the midland districts the sun shines much less than at Bournemouth and Hastings, and at Buxton, which is singularly neglected by the sun, the total number of hours may fall as low as six hundred or rise to nine hundred, so that a sunless week at Buxton, even in summer, is not rare. Such an occurrence at Bournemouth is a phenomenon hardly heard of. But there is often a vast difference in the sunlight in corre-

sponding weeks of consecutive years, even in the same place, and one week may have two hours, the other sixty or more. Still, even in the matter of sunlight, the longer the time over which observations extend, the more closely does the total approximate to the normal mean. Nowhere in England or the United Kingdom do we get the magnificent weather of Spain, or Italy, or Virginia; nowhere do we have the sun glowing like a ball of fire, standing out from an unclouded sky, a veritable blazing globe, as we have seen it in November in low latitudes. Our finest summer days are always hazy, especially in dry weather, and at a little distance from the south coast, and the lights and shades are comparatively ill-defined, at the same time we could find many worse climates than ours, and a long burning spell is not an unmixed advantage to health or to the gardener.

Now let us come to the temperature. Here again we find the annual mean more constant than is usually supposed: a departure of three degrees either way is almost unheard of. What does this mean? Well, just this: the mean temperature of Bournemouth is, the year through, three degrees higher than that of Wolverhampton, so that it hardly ever happens that Wolverhampton has a year as warm as that experienced at Bournemouth; nor does a very cold year at the latter, fall to the usual mean of Wolverhampton. The mean temperature of Rome is full 12° above that of London or Bournemouth, and nearly 15° in excess of Wolverhampton. Between Scilly and London, which are often cited as showing great differences of climate, the difference of mean temperature is less than two degrees, while between the extreme south of our island and the most northernly of the Zetlands, it barely reaches six. But the January temperature of Scilly is 45°; that of London is 39°. By March London is fast overtaking the former, and when July comes the London mean is five or six higher than that of Scilly, with a far higher day reading, so that a summer day in London is a very different matter to a Scilly one, and incomparably pleasanter. Between the south of England and the Northern Isles there is little difference in January, but July has a temperature eleven degrees higher in the former than in the latter, with a still greater day inequality. We are only speaking of means or averages, and we will explain how these are roughly taken. A thermometer is placed over grass, four feet above the ground, in a Stevenson-covered screen, painted white, at some distance from walls, houses, and trees. The daily maxim and minim are accurately recorded, then added together, *one* is deducted, and the remainder is divided by two; the result is, *roughly, the mean.* An important hint ought to be given to amateur meteorologists: common bath thermometers, hung up in porches and against walls, are of no earthly use, and record, if accurate, readings many degrees too low on hot days, and several degrees too high in bright nights. Again, spirit thermometers are often found to have a little spirit condensed in the part of the tube furthest from the bulb, and consequently they sometimes give a reading 12° too low. Not only do wide differences obtain in the means of corresponding days, but there may be wider differences of another sort which we will briefly glance at. You may have a cold night and a hot day, or a warm night and a cool day. For instance: the highest and lowest readings of a London July day and night may be 76° and 44°, giving a mean, very roughly, of 59° or 59.5°, or the respective readings may be 64° and 58°. In the former case the sky has been clear, with brilliant sunshine in the day, followed by rapid radiation at night; in the latter, a wet day has accompanied a dull night. In this way it comes about that a spell of brilliant midsummer, or still more often of May weather, with high day temperatures, may actually be below the mean of the season, although people may be talking and complaining of intense heat, while at another time the mean may be much above the average, although the cool, sunless days lead people to talk of its being strangely cold.

The mean temperature of a place teaches little as to its productions, or as to the pleasantness of out-door exercise. For example, one may have a great summer heat and intense winter cold, or a great deal of fog, damp and wind, which make the summer days disagreeable and the winter ones unbearable. Most people would prefer a hot, calm summer day to the damp, musty weather of Cornwall, while a calm frost is comparably less disagreeable than the windy damp of the South West Coast, where, with the thermometer at 40°, no great coat or mackintosh will keep out the searching, raw wind. The most unpleasant June and July we ever passed were in Cornwall, near Land's End, the thermometer seldom, at mid-day, exceeded 56°, and we had mist and fog, and rain. A remarkable instance of the small value of means is afforded by the respective climates of the northern shores of the Caspian, and of the Hebrides; both have much the same mean temperature, 45° F., but on the Caspian, and near the Ural Sea, there is intense frost, lasting for some months, which is followed by a long summer of transcendent brilliancy, and burning heat; there corn grows luxuriantly, choice vines, peaches, apricots, and mulberries bear fruit abundantly, while in the Hebrides, where snow rarely lies, and thick ice is almost a phenomenon, the summer is so little better than the winter, that corn seldom ripens, and is always of inferior quality, and fruit of any description is an impossibility. Candidly speaking, therefore, the Hebridean climate, though it has the doubtful advantage of equability, and of a mild misty winter, is far less adapted to successful agriculture and out-door amusements.

Which is the most disagreeable climate, is hard to say; some people would say that of Edinburgh or Cornwall. Admiral Fitzroy gives the palm to the countries on the Straits of Magellan. "It is so disagreeable," he says, "that the country is almost uninhabitable. Clouds, wind and rain are continual in their annoyance. Perhaps there are not ten days in the year on which rain does not fall, and not thirty on which the wind does not blow strongly, yet the air is mild, and the temperature surprisingly uniform throughout the year." The temperature of that ill-omened

region is uniformly low, rarely falling below freezing point, and as seldom rising above it. Extremes of cold never occur, and even with the thermometer at freezing point the screen of vapour mitigates the rigour of the climate. In this way it comes about that the vegetable and animal life of Tierra del Fuego, and of the mainland of Western Patagonia exists under apparently anomalous conditions; vast forests adorn the mountains sides; ferns closely allied to tropical ones grows splendidly, large woody-stemmed trees of fuchsia or veronica may be seen in full flower, parrots abound, and humming birds are seen in great numbers as low as 53.5° S. latitude. The absence of frost favours many kinds of productions, while the low summer heat is equally injurious to others.

Nothing tends so greatly to make severe winter cold endurable as a perfectly calm fairly dry atmosphere, and it is not too much to say of 20° F to a well clothed person is not so disagreeable, under these circumstances, as one of 40° with a keen wind blowing and the air nearly saturated. With a practically motionless atmosphere it is possible to get warm with the thermometer at zero, or even lower. But how seldom this kind of weather occurs in these islands. Almost at any season there may be in England a difference of 42° between the mean of corresponding days in different years, though this of course is very rare. The greatest departure in the temperature of months, weeks, and days, occurs in winter, the least in summer. For example: the mean of the coldest mid-January day in London is 38°, but January 20th, 1838, had a mean of 10.7°. A mean as low as 20° is, however, very unusual. On the other hand, the hottest July day of modern times had a mean of 79.5°, say 15.5° above the mean, against a January deficit of 25°, while a July day this year had a mean of 49°; a deficit of 15° as against January 24th, 1834, with one of 52.7°, an excess of, say 17°. In London, the thermometer has very occasionally, at long intervals, fallen to zero, and even three or four degrees below, while the highest readings have been 96.6 and 96.8 in July. On the other hand, the lowest recorded reading in the south of Scotland has been twenty-two below zero, and a day in Scotland, with a mean of zero, was once recorded. Once every other year the thermometer touches 90° in London, but in the following winter the minimum may not fall below 23°, giving an annual range of 65 or 66°.

At Ashdall, Alton, Hants, a maximum reading of 101° was recorded on July 15th, 1881; this, as far as we know, is the highest reading ever recorded in England by verified thermometers properly placed. So local, however, are very high or very low readings in the United Kingdom, that in July, 1881, the maximum reading at Cockermouth only once exceeded 70°. Again, in the memorable frost of January, 1881, while the minimum fell 15°, 20°, and even 22° below zero at some places, it was as high as 24° above zero at Valencia, 26° at Guernsey, and 29° at Scilly. In selecting a place for change of air or a holiday, a most important consideration is to get abundance of moderate warmth, brilliant sunlight and rainless days. The south of England answers these requirements fairly well from the beginning of May to the close of September, but during the winter all parts of the United Kingdom are bad—the drier, colder, North Eastern districts having keen searching winds, while the South Western ones have a continuance of wet wind and raw days, with temperatures so low that out-door exercise is not pleasant except to the very robust and young.

Climate has a tendency to arrange itself under one of two types—the continental and the insular—that is into large diurnal and seasonal ranges from, say 30° below to 110° above zero, a not uncommon range in many parts of the Northern states of the American Union and small annual and seasonal range like that of Scilly, from a minimum of 30° to a maximum of 70°. The most remarkable instances of the two types would be found on the one hand in Northern Siberia, and on the other in some small equatorial island. The nearer the equator, from the small difference in the length of the day, and the little change in the angle with which the sun's rays strike the ground, the greater the equability of thermometer all the year round. So that in extreme cases the annual range, night and day, may only be from a minimum of 80° to a maximum of 90°. But between the extremes of both types of climates there are countless varieties, and one can only roughly say that the nearer the sea and the shorter the distance from the equator the less the annual and the diurnal range, while the further from the equator and from the sea the greater the extremes.

Hardly a year passes that some wiseacre does not write to the papers that the thermometer in his garden has reached a higher point than at Calcutta, or in Jamaica, or that the lowest reading has actually been higher than at Athens or Palermo during the same season. Both statements may be rigidly true, but the inference from them that the climate of England has anything in common with a tropical or sub-tropical one would not follow. It is quite possible that on some abnormally hot day, just for three or four hours, the thermometer may read as high in Hants. or Sussex as at Calcutta, or some other damp place not far from the sea in or near the tropics; but whereas in England the thermometer only stands at that high figure for a few hours, once or twice in a couple of years, in the tropical town it will read as high for six, or eight, or ten hours a day for weeks, and even months at a time. The absolute highest readings, however, are not usually on the equator, but 15, 30, or 35 degrees north or south in dry regions like the plains of India, or the oases of the Sahara or the dry plains of Australia, and there the daily maxim may reach 100° to 110° for a long time, occasionally running up to 118° or 120°, or even at rare intervals to 127°, or even 132° or 133°, the last the highest recorded maximum ever known. By the way, as reliable meteorological stations are infrequent in tropical lands, especially in the great rainless tracts, we do not know with absolute certainty what figure might be reached in some exceptional season, possibly 140° or 150° as an extreme. Against this, however, may be set the fact that the extreme

readings of 127° to 132° have not been surpassed during the past forty or fifty years, although the hottest regions of the earth have been repeatedly traversed by explorers well armed with instruments, and knowing thoroughly how to place them.

Everyone must have noticed the great charm of a bright, sunny, calm day, although the temperature may be quite moderate, while nothing is more depressing than a day on which, without sharp, actual cold, the earth and sky are enveloped in a dull uniform gloom. A traveller in the temperate but highly favoured parts of the world, like Florence or Malaga, is greatly surprised at the crowds whom he sees in the open air on fine evenings and cool days compared with the small numbers to be seen in England at the same season and hour. Had we the sunlight and genial atmosphere of southern France how quickly would our habits change: our houses would be thrown open, we should sit out in our gardens, perhaps in the streets, and no longer take "our pleasures sadly." All we need is a calm dry atmosphere for perfect enjoyment, not necessarily a high reading, and in parts of Colorado people are said to sit at open windows without extra clothing with the thermometer at 31°, and not to complain of cold.

We have received from the Society for the Prevention of Cruelty to Children a pamphlet entitled, "The Child of the English Savage," written by Cardinal Manning and Benjamin Waugh, exposing the cruelties practised on helpless children by men—or rather, brutes—with ungovernable passions, and calling for the helpful aid of the people of England to protect innocent children from such cruelties. To the public, the revelations made by the Secretary to the Society must be startling, but to medical men in public positions the facts will not be surprising. As a profession, we have for years and years, through our professional journals, asked for legislation which would protect infant life. We have again and again called attention to the methods by which in this country infanticide was encouraged and allowed. Baby-farming has been fully exposed in the medical press; the insurance of infant life has been denounced; the ill-feeding of infants has been exposed, and remedies suggested; the various social aspects of these evils and questions have been pointed out in the columns of the medical journals.

It takes time to waken up public opinion; and, probably as the result in a certain measure of what the medical press has done in the past, we have at the present moment a powerful organisation, with admirable machinery, ready to do battle in the cause of the unprotected. The indictment brought in this pamphlet against the English savage is a heavy one, and unfortunately, but too true. We heard the Rev. Benjamin Waugh, at a recent meeting for the establishment of a branch of the Society in Halifax, give additional facts substantiating those already published in his pamphlet, and showing how widespread were the evils therein complained of, and how necessary it was that parents should be taught that there was a supervision over them, and that children could not be treated with impunity. The great difficulty a society has to contend with arises from concealment and from ignorance. Infanticide has been very ably treated of in this journal by Dr. Francis Vacher, of Birkenhead. Its causes are but too well known. The legislature must in due time consider the subject. Awaiting that consummation, the assistance of the medical profession is invoked by the London Society for the Prevention of Cruelty to Children. Medical men can assist very materially by sending to the Secretary well-substantiated facts, showing especially how far cruelty has been practised, in what manner, giving details of death which have occurred with or without medical treatment, and whether insurances existed on the lives of any children which have died. The greatest difficulty in connection with the subject is, how to reach the children of a floating population—as, for instance, the tramps who go from town to town, and next, the children born out of wedlock. The insurance of infants and children has been unfortunately made a bad use of; and admirable though the principle is, owing to this abuse, some legislation is earnestly required. It seems a terrible thing to think that a child's life should be taken away for the sake of £3 or £4; but that is the extreme way of putting it. It is not that the child is deliberately killed: there is indifference and neglect, and the child is allowed to die. If the child be ill, medical advice is only sought *in extremis*. In infanticide as practised, infants and children die a slow, lingering death. The law cannot touch the parents who offend in this way. The greatest kindness such parents could do to their children would be to cut their throats, and put an end to their misery at once; but here the law would at once step in, and the savage would swing at the end of a rope, with his head in a noose, a process which the savage does not like. The crime is one of omission, not of commission. Much helpful work may be done in all our large towns by well-organised committees attached to the parent Society in London—work not alone of a penal nature, as in the exposure and punishment of cruelty to children, but in reformatory and educational work. For instance, who is really responsible for the slaughter of the innocents in the case of unmarried women? They are confined in our workhouses, and when discharged at the end of a month may go out into the world more helpless than when they entered, because they have an additional burden to bear, and another mouth has to be fed. The woman is weighted down and disgraced. She has to begin the battle of life again, but against unequal odds. Her infant is a standing testimony against her, and it must be hidden away, else she cannot obtain food for either it or herself. It is very effectively disposed of, though it is not deliberately killed: it is put out to nurse. What agency does there exist to prevent the unfortunate woman from sinking and being engulphed? Fortunately, we do find a few devoted women who are willing to take upon their own shoulders the burden of their sisters' shame, who enter our workhouses to find out how they can help, and who do not

disdain to lift up fallen women, thereby giving the lie to Byron's satire—

"That every woe a tear can claim,
Except an erring sister's shame."

But individual effort cannot supply the want of organisation, and herein lies the value of such a society as the one under consideration. We must recognise the existence of these unfortunates, and this is a first step towards helping them. It is women's work to do so, and it can be better done by means of a committee than by individual aid. Next in importance to the protection of illegitimate children comes the education of mothers as to the proper method of feeding infants, so that the scope of work is a very wide one. The help of the medical profession is essential in all this reformatory work, and we believe we are warranted in saying that it will be readily forthcoming.

Milk is such an important article of diet, so largely used—in fact, indispensable—that we must welcome any reforms which tend to give us this model food free from contamination, and free from disease. The sanitary condition of dairy farms generally is most lamentable, though in many cases it is true that great cleanliness is observed in the dairy, and that vessels are scalded and washed, and the milk is placed in a clean receptacle, but even in the cleanest dairies the atmosphere may be polluted, owing to deficient drainage and close proximity to the other premises in which the cows are laired. The condition of the cows at the time of milking has not received much attention, the milk being sieved subsequent to the process, so as to strain solid particles, hair, etc. There is, we believe, incontrovertible evidence to prove that serious epidemics have arisen from infected milk. But though in some cases reported, it must be admitted that the evidence is of a weak nature, and the milk has been wrongly incriminated. This does not, however, detract from the necessity of making provision for the proper lighting, ventilation, water supply, and drainage of the dairy and cow-shed. In an excellent article read before the Epidemiological Society of London December 14th, 1888, Mr. Shirly Murphy reviewed our present position as regards legislative interference with milk-selling, and sketched an outline of the additional legislation required for the protection of the milk against infection or contamination. Sanitary reformers are too often accused of being crotchety, impracticable, and of not sufficiently considering expenditure; but we think it will be seen that the provisions desired by Mr. Murphy are calculated to benefit the farmer, because under proper sanitary conditions the cow will become more valuable as a producer, and its health will be better maintained. The cow has, indeed, been treated with too little respect; she is exposed in the summer time, and then is transferred from fresh air into a close, confined, dark shed, to conditions which are in many instances lamentable, and here she is expected to give milk of good quality.

In sanitary administration we have first, then, to deal with the cow and her shed, and in this connection will have to be considered cubic space necessary for each cow, ventilation and drainage, and especially of water supply. Mr. Murphy's recommendations on this point are not excessive.

Secondly, we have to deal with milk when it has left the shed, and is carried to the dairy. Rules of cleanliness cannot be too rigidly carried out, and we certainly cannot see that the farmer can object to conditions which will increase the value of his products.

Thirdly, when the milk has left the farm it passes into the hands of distributors of all kinds. Milk-shops of late years have very much improved, and they will still more improve if customers themselves would take a little more interest in the subject. Legislation is here required, however, for the benefit of that large class who cannot afford to be too particular as to the class of shop they buy their milk from.

Of course, many who are interested in the milk traffic will resist all interference with what they consider their rights. They consider that legislation interferes with their trade, and they imagine that they should be allowed to conduct it in their own way and under any conditions. This is a delusion. Every individual has a right to conduct his trade in his own way, but it must not interfere with the greater right of his neighbours and fellows. This is the principle which underlies all legislation and control of workshops, factories, hours of labour, employment of children, etc. In London, private initiative has so far forestalled State interference that we have model dairy farms, model shops, and model distribution of milk, all undertaken in the interests of the consumer. No loss has been experienced by the company which have thus wisely set their houses in order, and their action should stimulate those in the trade to imitation. Mr. Murphy's paper is a valuable contribution to the subject, and must be the means of reform.

The hypodermic method of treating syphilis has, during last years, grown in popularity abroad. Its history since 1885 is very ably given in an article in the *Progrès Medical*, January 5th. It deals with the subcutaneous injection of calomel. The following abstract may be of some interest to those who have tried the method, whilst it may induce others to put it to the test.

1. *Injections of Metallic Mercury.*—This kind of injection has been performed either with liquid mercury or with mercury dissolved in either fat or oil. The first mode has been performed by Lutaud and by Procharow. These authors inject one gramme of the metal in the subcutaneous tissue. Procharow adds some water, and then manipulates the injection. Specific complications disappear in from three to six weeks, without exciting disturbance of the digestive functions. The injections may be repeated three or four times a week, using 0 gr. 50 c. of mercury

each time. Lang mixes the mercury with oil, to which may be added a little phenic acid to prevent fermentation. Each cubic centimètre contains 0.23 centigrammes of mercury. He performs two injections a week in the dorsal region, recommending, in specific ganglionic affections, that they should be made in the track of the lymphatics.

2. *Injections of Calomel.*—The first injections were made by Scarenzio and Smirnoff, who have since developed the method. They have since been tried by Ambrosoli, Sigmund, Gallien, Balzer, Walraszewski, Kapp, Chalzen, Neisser, Stonkowenkow, Kreche, and Bloom. Calomel is dissolved in solution of glycerine, mucilage, oil of vaseline, or chloride of sodium. The favourite seat of injection is the region of the buttocks, the part being manipulated so as to diffuse the liquid, though some authors condemn this as tending to favour abscess. The injections should be performed with antiseptic precautions. The needle should not be withdrawn until all the liquid has been absorbed in the subcutaneous tissue. At the first time, an injection of 0.10 c. is made, the operation being repeated in fifteen days. Two *séances* are generally sufficient in mild cases, but in rebellious cases it would be necessary to use the injections four or six times. The injection produces little or no pain at the time, but usually in three or four days the region becomes sensitive, and sometimes an abscess forms at the seat of the puncture; sometimes, in place of the abscess, nodosities are produced, which are more or less painful, and last ten or twelve days. In employing it M. Balzer has never observed the formation of abscess. In some individuals stomatitis is produced. The object proposed is to obtain a slow absorption of mercury without submitting the patient to repeated medications. In effect, on examining the urine mercury may be found from sixteen to twenty-four hours after the first injection, and even so long as the fifteenth day, though most of it is eliminated between the third and fifth day. Secondaries disappear in from two to four weeks, but tertiaries are more rebellious.

3. *Oxides of Mercury.*—Thadeck and Walraszewski have employed the yellow oxide of mercury. It is mixed with mucilage of gum arabic or oil of vaseline in proportion of 1 in 30; each injection contains 0 0.4 c. of the active substance. Three to five injections are sufficient. Recent preparations should be used, as the oxides decompose easily. The operation causes a little pain, which ceases in from twenty to thirty hours. The region should not be beaten; the patient should rest. Abscess and nodosities are rarely observed.

4. *Phenite of Mercury.*—Gamberin first used this salt, Shadek and Irostygin giving it by injections, made by mixing. The injections are not painful. Ten injections are sufficient.

5. *Salicylate of Mercury.*—This has been employed by Sylva, Arango, Moura Brasil, and Neves de Rocha, who used a solution of 00.5 milligrammes.

6. *Formamide of Mercury.*—This was first used by Liebreich, then by Zeissel and Koppe. The pain of the puncture lasts about twenty-four hours. Relapses are frequent after its use.

7. *Succinimide of Mercury.*—This has been employed by Wolfe in a two-per-cent. solution. Two grammes of this salt contain one gramme of mercury. He performs, each day, an injection of 0.02 centigramme. The puncture is painful.

Peptonate of mercury has been employed by Martineau, and Bochart has employed the bichlorate of mercury with serum, adding thereto the chloride of sodium. Mandelbaum has employed bicyanide of mercury in a one-per-cent. solution, adding 5 per cent. of cocaine to relieve pain. The addition of cocaine seems desirable, and some antiseptic will also prove useful.

Which treatment should be preferred, internal, inunction, or hypodermic injections? It all depends on the patient. For a patient whose digestion is normal, and who can give time to treatment, the internal seems preferable, especially in presence of the inflammatory phenomena produced by the injections. In the class of patients met with at the cliniques the injections are indicated. In grave affections where it is necessary to apply immediate remedy inunction is more rapid. What sort of injection should be preferred? In indurable affections, where incessant action of mercury is preferred, calomel, the oxide of metallic mercury in the form of *huile grise* should be utilized. In slight cases, in which patients cannot support the action of mercury by the digestive tract, the soluble salts should be employed.

Annotations.

"Forsan et hæc olim meminisse juvabit."

SIGNS OF THE TIMES.

In looking over the daily journals, we are pleased to see such headings as "Medical prosecution for irregular practice." Lately, we have had a fair number of these paragraphs, so that they present us with signs that the unlicensed practitioner is not likely to have altogether a good time. At Hoyland, W. Barnsley, a man who had been practising there for nearly ten years, was find £17 10 with the option of two months imprisonment. We want some more such lessons from the Bench.

EUTHANASIA.

Some medical experts have been investigating the best methods of producing death, and they have found that euthanasia may be most quickly promoted by means of electricity. This agent produces death painlessly, we presume, and instantaneously. It is very considerate to take such measures for the benefit of our criminals, though we have no doubt that they fail to appreciate the efforts of those philanthropists who propose to substitute electricity for hanging.

THE ABORTIONIST IN CHICAGO.

The *Journal of the American Medical Association* is to be congratulated on the bold manner in which it has spoken out on the subject of professional abortionists. The profession in America have been silent in this respect. Now that the national journal of America has had the courage to break the silence, we may expect a crusade against the men who disgrace the profession in the States. The occasion which induced the journal to tackle the subject arose through the action of the *Chicago Times*. That paper had the daring to print "the names of midwives and physicians who declare that they are ready to do murder, and most foul murder, for money." Well may the journal say: "Criminal abortion, the national disgrace, has culminated in the exposure in Chicago. It is to be regretted that the matter was not worked up at the same time in other cities, so as to clear the country of the harpies that foul the medical profession." Now is the time to clean the Augean stable.

ROUTINE ANÆSTHETICISM.

Familiarity, it may be truly said, begets contempt. Men accustomed to firearms are too frequently very careless. Witness the numerous accidents reported as occurring through the carelessness of leaving guns about with the charges undrawn. The profession has ever been alive to the dangers of chloroform; but we regret to say too great familiarity with this boon has led to a disregard of the possible contingencies that may happen. Chloroform is given too rapidly, it is not even measured, and as a consequence we have but too many deaths. Professional anæsthetizers are not very numerous, being only to be found in the largest cities. Chloroform has to be very frequently given by one practitioner for another in an emergency, so that we cannot too strongly impress upon practitioners the importance of what they undertake in giving chloroform.

MEDICAL AID SOCIETIES.

We have not heard recently of the London Medical Provident Society. Is there reason to hope that the scheme is likely to end in failure, and that the vigorous and widespread opposition on the part of the general practitioners to it has had some effect? We regret to find that private medical aid societies, with all the paraphernalia in the shape of handbills, posters, painted windows, and screens, are still in full vigour. The College of Surgeons and Physicians are fully alive to a sense of their dignity, as we have seen in regard to their action relating to Sir Morell Mackenzie. His printed matter offended their sense of propriety. Could not the Colleges look at the printed matter circulated by members in the lower walks of the profession? More harm is done to professional interests and respectability by the latter than the former. Sir Morell Mackenzie, of course, is in the highest rank; hence the kind attention he has received from his Colleges.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.

A most successful conversazione in connection with the above association was held on January 15th, in the rooms of the Medical Society of London. The guests, to the number of 300 ladies and gentlemen, were received by the president-elect, Dr. R. Fegan, in the unavoidable absence of the president, Dr. Macalister, F.R.S. Among those present were Lord Ronald Gower, Sir William M'Cormac, Director-General Dick, C.B., R.N., Dr. Robert McDonnell, F.R.S. (Dublin); Dr. Ericksen, F.R.S.; Dr. Macnaughton Jones, the President of the Harveian Society (Mr. Sedgwick), Surgeon-General Manfold, Dr. Robert Barnes, Dr. Norman Kerr, Deputy-Inspector-General Mac Clinton, R.N.; Dr. Crowe (Worcester), Dr. Gilbert Smith, Dr. Mapother, Mr. Bruce Joy, Lieut. G. Dick, R.E.; Mr. George Cowell, Dr. A. E. Sansom, Mr. Wallace, J.P.; Surgeons-Major Rabully, Bartley, Roe, and Marturin. The hon. secretaries, Drs. J. Stewart (Clifton), and P. S. Abraham. Provisions were made for all varieties of tastes, the music being exceptionally good. It consisted mostly of Irish melodies, or part songs from the collection of the Dublin Strollers, rendered by Miss Rose Hervey, Mr. O'Shaughnessy, Miss Aungier, Mr. R. Groome, Mr. L. Clive, and several well-known amateurs. Recitations were also given by Mr. W. H. Stephens and Miss Elaine Verner. Some good specimens of instantaneous photography were exhibited by Messrs. Robinson & Sons (Dublin and London). There were many other exhibits, including a portable telephone by Mr. W. C. Greenhill; microscopes, ophthalmological, and other instruments by various well known firms. Irish artists were also well represented by Mr. Bruce Joy's sculpture, and portraits from the easel of Mr. Thaddeus. The walls were also adorned by specimens of the work of Miss Inglis and Mr. Mac Cullum—old engravings, etc. Altogether we must sincerely congratulate the Irish Graduates on this successful gathering, which is the last of the series of meetings by which they have been celebrating the conclusion of the first decade of their existence as an association.

INFANTILE MORTALITY FROM SYPHILIS.

At the meeting of the Obstetrical and Gynæcological Society of Paris, December, 1888, Dr. L. Le Pileur read a valuable paper on "Infantile Mortality caused by Syphilis," founded on documents collected at the prison of St. Lazare. There has been much diversity of opinion as to the number who die annually from syphilis in England and other countries. There is too much conjecture to attach any importance to the numbers given. It is difficult to collect accurate statistics in a case of this kind, and we therefore welcome Dr. Le Pileur's contribution, as he was able to give information derived from a small centre, where the conditions of correct observation could be fulfilled. The paper is of moderate length, and will be found interesting to those who require information on a very important subject.

BRITISH GYNÆCOLOGICAL SOCIETY.

At the annual general meeting of this society, held Wednesday, January 9th, 1889, the following gentlemen were elected officers and council for the year 1889: *Hon. President:* Robert Barnes, M.D., F.R.C.P. *President:* Arthur Vernon Macvan, M.B., B.A., F.K.Q.C.P.I. *Vice-Presidents:* Fancourt Barnes, M.D.; J. G. Sinclair Coghill, M.D.; J. Halliday Croom, M.D.; Thomas M. Dolan, M.D.; William Gardner, M.D.; W. Chapman Grigg, M.D.; William T. Lusk, M.D.: James A. Mansell-Moullin, M.B.; Thomas Savage, M.D.; W. Japp Sinclair, M.D.; Brice Smyth, M.D.; William Walter, M.D. *Treasurer:* George Granville Bantock, M.D., F.R.C.S. Ed. *Librarian:* Bedford Fenwick, M.D. *Council:* William Alexander, M.D.; Thomas M. Cambridge, M.R.C.S.; William A. Dingle, M.R.C.S.; R. W. Edginton, M.D.; Arthur W. Edis, M.D., F.R.C.P.; George Elder, M.D.; C. Egerton Fitzgerald, M.D.; Robert Harvey, M.D.; A. Philip Hills, M.R.C.S.; Francis Imlach, M.D.; John A. Lycett, M.D.; Thomas Morton, M.D.; James Murphy, M.D.; F. Albert Purcell, M.D.; J. A. Rawlings, M.R.C.P.; W. Reid, M.D.; C. H. F. Routh, M.D.; Samuel Sloan, M.D.; J. Grey Smith, M.D.; Heywood Smith, M.D.; W. J. Smyly, M.D.; W. Dunnett Spanton, F.R.C.S. Ed.; Lawson Tait, F.R.C.S.; Edward G. Whittle, M.D. *Hon. Secretaries:* Bedford Fenwick, M.D.; Richard T. Smith, M.D.

THE LENDING OF PRESCRIPTIONS.

This practice is becoming too common, one prescription being made to do duty almost for a whole village. Some one consults a physician for rheumatism, the prescription does good, it is copied and may be sent all over England; for if the original holder of it happens to have a friend suffering from rheumatism, it is at once assumed that the prescription which did so much good in one case will do so in another, so the prescription is at once sent off. This is not the only grievance. The patient takes the prescription to the chemist, and gets it made up as often as she likes, perhaps taking a medicine which is highly injurious too often repeated. We believe this to be a real grievance. Some remedy is required. We should be content with the German system, where a prescription cannot be refilled without the signature of the prescriber.

HACKNEY CARRIAGES AND POISONING.

The "Mystery of a Hansom Cab" becomes explainable when we find out in the course of the story that a poison has been administered. It would appear from *Le Progrès Médical* that we may have poisoning from the very anxiety of the *cocher* for the comfort of his passengers. M. Gautier has had to direct the attention of the Prefect of Police to the dangers of riding in hackney carriages, heated after the method—so common in Paris—of Chaufferettes. During winter, many of the cabs are thus warmed, and when the windows are closed, owing to the evolution of oxide of carbon, the voyager may find himself overpowered by the fumes, and symptoms of poisoning may take place. Even some of the distinguished members of the Academy of Medicine have thus suffered. There is greater danger when a number of persons occupy a carriage. A coachman named Jean Hiver was poisoned in his own cab. Some other system of heating will, no doubt, now be adopted.

TOBACCO.

We have continual scares about the evils of smoking. We believe a good deal of the abuse to which tobacco has been subjected has been produced by excess, and by disregard of what we may call ordinary hygienic rules. For instance, men will persist in using pipes which are too old; they will not clean out the pipe before refilling it; and we frequently find that this neglect is at the bottom of the many troubles from which smokers suffer. The smoker's heart and the smoker's pulse are not very commonly found, save in those who smoke to excess. The moderate use of tobacco is, as a general rule, harmless. But here we should say that good tobacco should be obtained.

THE INCREASE OF CANCER.

Sir Spencer Well's Morton lecture has frightened a number of people, and for some time to come we shall hear a good deal about cancerous diseases. It was made a subject of question in the House of Commons. When General Grant died in the United States, there was a large number of papers published upon cancer, and here in England we may thank the late Emperor Frederick for stirring up scientific zeal. The evidence at present offered us cannot be contradicted, and it is unfortunately but too true that cancer is on the increase. The profession is now forearmed, and hoping that investigation will follow on our knowledge, we may be able to do something to prevent the disease spreading further during the next decade.

HYSTERORRHAPHY.

Under this name we have a new operation for displacements of the uterus. It comes to us from America, and is thus introduced to us by the *New York Medical Record:* "The cervix uteri having been subjected to an incalculable amount of more or less harmless stitching, both by the experts and those willing to become so, it is now proposed to devote a stitch or two to the hitherto strangely neglected fundus uteri. We may as well confess *à priori* our feeling in favour of hysterorrhaphy, as Dr. Howard A. Kelly, of Philadelphia, has called this new operation, with which his name has become justly and prominently associated. The fame of this gynæcologist has too long grown, *pari passu*, with the number of his cervical stitches. It is time that the trachelorraphist should be told that the cervix is not the universe, even in a strictly uterine sense. He should learn that there may be complete cervical happiness, although the fundus still weeps away down in the hollow of the sacrum, on account of a prior attachment. The hysterorraphist is, of all

persons, the one best qualified to restore the just equipoise of things uterine by placing his beneficent stitches where they really belong, and no longer truckling to that arrogant gynecic monopolist, the cervix uteri, in spite of all its amiable accessibility. Of course, sewing the fundus is an innovation of a somewhat revolutionary kind. If there needs must follow division in the serried ranks of the conquering hystero-stitchologists, let the new party lines be drawn on this local issue of cervix or fundus. For that both parties will continue to stitch to the end of all time, nobody can reasonably doubt. Seriously speaking, however, the new operation of attaching the uterus to the abdominal parietes is a rational procedure in otherwise unmanageable cases of displacement. The operation itself is neither very difficult nor specially dangerous. It extends a just hope of relief to those whose sufferings are not likely to be over-estimated.

THE HOG AHEAD.

Under this heading the *New York Medical Record* tells us "that the United States Government has paid more money for the investigation of the diseases of hog than it has for all the diseases of the human race." The hog is ahead, *because* the hog represents money, and we regret to say that the same remarks might be applied to other countries than the U.S.A. The public set more value on their property than they do on their own lives. If some money interest be at stake, what precautions are taken to protect it. The best legal advice is sought, counsels' opinions taken, and large fees are paid, enough to cover medical attendance for some years. But when grave illness is experienced, a few guineas are begrudged for the best advice; some even prefer to die cheaply under the 6d. doctor or the chemist. They need not grumble if the State follows them in their estimation of what is valuable.

A CAUTION FOR INSURANCE COMPANIES.

Very recently, Mr. Robottom, the Borough Coroner of Wigan, held an inquest on a woman who died suddenly in the tap room of a public-house. It transpired at the inquest that she was numerously and heavily insured, that within the last twelve months she had been insured by a person who had no insurable interest. A *post-mortem* examination was made by Drs. W. Mitchell Rorcroft and R. Prosser White, and they found chronic bronchitis of long standing, valvular disease of the heart and kidney mischief, and also were of opinion that she was sixty years of age, although she had joined the insurance company as forty-eight years of age. Death from natural causes was the verdict of the jury, and the day following the inquest, *five* applications for copies of the register were made for insurance claims. Speculative insurances are largely made in Wigan, and seem even to be connived at by the agents. Moreover, individuals other than the person insured are believed to be presented for examination by the companies' surgeons. Many of the insurance companies require no medical examination for amounts under £20 or £25, and numerous policies are issued from different offices; but even in the same office it is no uncommon thing for two or three, or even more, policies to be issued. Surely the legislature ought to step in and prevent such traffic, especially after the experience of the Liverpool cases. The Coroner of Wigan, however, is deserving of great commendation for having by means of his enquiry brought such facts to light.

A SINGULAR CASE.

A singular case has lately come under the notice of the French tribunals. A French sage femme was asked to attend a young girl (unmarried) by her uncle, who promised that he would pay all expenses if she consented, and the accouchment came off. In due time the young lady went back to her home, and was as far as the world knew a virgin. The child was put by the sage femme out to nurse, and for a time all was satisfactory. The uncle paid according to agreement, but unfortunately for the midwife he died. There had been no written agreement; both the mother and the family repudiated all liability for the child, and preserved a decorous silence when written to. Ultimately the sage femme getting no redress entered the case into court, with the result that she lost her case, and is now actually expected to bring the child up until it has reached its majority.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.

The report of the above society was presented at the quarterly meeting of the committee, held on January 16th, Mr. Ernest Hart in the chair. The report showed an addition of thirty-four new members during the quarter, showing a total effective membership of 932. The practical work of the Sick Fund showed a receipt from previous income for the half-year of £2,610 and £183 interest, as compared with £2,288 and £53 interest in the same period of the previous year. The Annuity Fund shows an increase of £1,256 for the half-year, against £1,127 in the corresponding period of the previous year. In the Insurance Fund the income had increased, and there had been no claims from death. The income due to the Management Fund had been £518, of which only £227 had been expended. There is an accumulated saving in this fund of £2,287, which is put to the credit of the Members' Fund. The Government Returns under the Friendly Societies Act have been completed, and will be sent in during the week. The total increase in the society's funds during 1888 is £7,897 10*s*. The total worth of the society is now £28,719 2*s*. 1*d*., of which £743 3*s*. 1*d*. is with the bankers on current account, the remainder being invested in the name of the trustees (Sir Spencer Wells, Dr. W. Ord, Mr. Ernest Hart, and Mr. J. R. Lupton) in first-class securities at an average rate of $3\frac{3}{4}$ per cent. interest. The prosperous result of the year's operations has been verified by the auditors, and it discloses sound progress, economical

administration, and the most solid financial security for the beneficial extension of the operations of the society, in affording the means of provision to all members of the profession against losses, accident, illness, and the diminished earning power of old age. All documents, tables, etc., may be obtained from the Secretary, Mr. Radley, 26, Wynn-road, Brixton, S,W.

New Remedies.

Condurango Bark.—Although this bark has not received so much attention in this country as in Germany, it is evident that it possesses powerful medicinal properties, since a glucoside has been extracted from it, which has been shown, in some preliminary experiments made by Professor Kobert, to be a powerful poison. It is called *condurangin*, and is a yellowish powder, soluble in alcohol, and having a bitterish aromatic taste. The variety of condurango bark, from which it was obtained, is *Gonolobus Condurango*, Triana.

Creatine is stated by Professor Kobert to possess certain advantages over Liebig's extract, in not containing gelatinous substances, which in certain affections of the stomach prove injurious. He holds the opinion that creatine, given in doses of 0.1 gram four or six times daily, would be of therapeutic value for stimulating muscular action in cases of debility, and also in weakness of the heart and chronic debility of the digestive organs. It should be given in the form of dry powder, laid upon the tongue, and washed down with a draught of water.

β-naphthol is reported to have proved a safe and efficient remedy in seven cases of enteric fever treated by Dr. J. Mitchell Clarke, of the Bristol General Hospital. It was found to produce an effective internal antisepsis, and to lessen the duration of the disease. The intensity of the symptoms was diminished, and the tendency to boils and abscesses lessened. On the other hand, however, it was found to have some disadvantages, being liable to produce gastric disturbance, and in two cases it failed to prevent a relapse.

Camphoric acid has recently been recommended by Professor Reichert in various inflammatory diseases of the mucous membrane, especially of the respiratory passages. It is obtainable in the form of white crystalline needles, having an acid taste, is readily soluble in alcohol, also in ether, and in fixed oils to a limited extent (2 per cent.), but is soluble with difficulty in water; hence it is best to add about 11 per cent. of alcohol to the water used for dissolving it. When applied to the mucous membrane it appears to quickly exert an astringent action, and promotes granulation without causing irritation, whilst it also acts as an antiseptic. Externally, solutions containing from ½ to 6 per cent. of the acid can be used; internally, however, a ¼ to 2 per cent. solution is found sufficient. In acute angina, the use of ½ to 1 per cent. solution every three hours has been employed; in pharyngo-laryngitis and tracheitis it has been applied in the form of a spray, of a ¼ to 1 per cent. solution. In acute catarrh, wadding saturated with a 2 per cent. solution is placed in the nostrils; and in acute bronchitis, a 1 to 2 per cent. solution is used as a spray.

Phenacetin has been found to be soluble in lactic acid at a temperature of 33° C., and it has been suggested by Messrs. Mirrachi and Raffi that this fact accounts for its rapid absorption when administered, since lactic acid is usually present in the stomach. If this be the case it would appear probable, therefore, that in those cases in which phenacetin fails to give relief in neuralgia and headache, the failure may be due to the absence of that acid from the stomach, and that the addition of a little lactic acid would probably overcome the difficulty.

Thiol.—Under this name an artificially prepared representative of the natural ichthyol has been introduced, for use in the treatment of skin diseases. It is prepared from the gas-oil obtained in the distillation of brown coal by heating it with 10 to 15 per cent. of sulphur at a temperature of 215° C. The thio-sulphonic acid formed in this process is separated from the undecomposed oil, and forms a dark-brown resinous mass, readily soluble in water, from which it is reprecipitated by mineral acids or salts. It is soluble in alcohol or ether, or a mixture of the two. By neutralising the aqueous solution with ammonia or soda, the salts of thio-sulphonic acid are obtained, which are said to correspond to the natural combinations found in ichthyol.

Sulphonal, which forms the subject of a lengthy paper in the *Dublin Medical Journal*, seems to have proved, in the hands of M. Conolly Norman, to possess valuable properties as a soporific. Out of twenty-two cases in which the drug was tried, bad results were noticed only in two, and in these other sedatives had previously failed. No gastric or intestinal trouble was observed; the appetite improved under its use; the tendency to self-abuse and erotic excitement, in several cases of melancholic-mania from masturbation, was diminished in a marked manner; the sleep produced by it was natural, refreshing, and dreamless; and the patients raised no objection to taking it. Mr. Norman, while acknowledging that sulphonal may, like other potent drugs, have its peculiar dangers in certain cases, yet considers that it is, as a rule, free from danger, and is followed by trifling, if any, unpleasant after-effects.

Sparteine.—The experiments of Levascheff and Pawinski show that the use of sparteine is indicated in recent cardiac affections where compensation is but little disturbed, and the degeneration of the cardiac muscles has not progressed far; but that in advanced cases, and where œdema is excessive, it is without effect. Its action, however, is rapid, the therapeutic effects being produced in fifteen minutes. In some cases it is liable to produce irritation of the mucous membrane of the intestine. The cases in which it seems likely to be especially useful, according to Pawinski, are in nervous troubles where the heart is affected, in the early symptoms of Graves' disease, in painful sensations in valvular disease, and in asthmatic attacks in patients who have a bronchitic or emphysematous tendency.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. Kesteven, M.D.

A Pasteur Institute at Brazil (*L'Union Médicale*, December 6th, 1888).—At the sitting of the Academy of Sciences, Paris, November 6th, M. Pasteur stated that at the request of the Emperor of Brazil he had established laboratories, etc., for the treatment of hydrophobia. From February 9th to October 8th, 1888, 149 persons presented themselves for treatment. Of these 69 only were detained, the evidence of rabies being deficient in the other cases. Of the 69 cases, one died, not having been placed under inoculation until twenty-four days after the infliction of the bite. It would seem, therefore, that no ill-effects attended the measures adopted in the remaining sixty-eight cases. The actual results are not stated.

Treatment of Gôitre by Intra-Parenchymatous Injections of Iodoform Ether (*Le Progrès Médical*, December 1st, 1888).—The patient, æt. seventeen years, came under the care of Dr. Ferrier at the hospital, Bichat, on the 16th February, 1888. At the age of fourteen he first perceived the enlargement of his neck. The gôitre consisted of three tumours connected with one another. The largest tumour, on the right, was the size of a hen's egg, and was free from nodosities; the smallest, situated on the front of the trachea, was as large only as a nut. The third, situated on the left side, was of a size intermediate between the other two. The tumours were all hard and movable. Injections of iodoform ether were commenced on the February 19th; one injection daily was performed until the 10th of March (twenty-one injections), on which day he left the hospital. The injections had been practised alternately, right and left. The repetition was gradually reduced until, in November, they were repeated only once a week. There remained then only a nodule of about the size of a small nut.

Prevention of Rabies in Bavaria (*L'Union Médicale*, December 6th, 1888).—From the year 1863 to 1876 the average number of deaths from hydrophobia was stated to be fourteen annually; sometimes the number rose to twenty-three, and in one year to thirty-one. The law

having been strictly enforced with regard to stray dogs during the last seven years, three deaths only have been reported during that period! The population of Bavaria is stated at five and a half millions.

Thiol (*Der Forsschritt*, December 5th, 1888).—This substance is, according to Dr. Keeps, identical in chemical properties with ichthyol, but obtained by a different process from coal-tar. It has the synonym of "German ichthyol."

Two Cases of Cysticercus Cellulosæ in the Brain (*Forschritte der Médicin*, December 1st, 1888).—The first cases related by Dr. Bollinger was that of an individual, forty-one years of age, suffering under tubercular disease of the lungs, but who had not shown signs of brain disease. A cysticercus was found imbedded in the white substance of the right hemisphere, accompanied by chronic fibrous, and acute hæmorrhagic inflammation. The parasite had attained the size of a cherry stone, and was situated on the margin of the middle and lower convolutions. In the second case vertigo and persistent headache had existed for seven weeks before death, together with disease of the lungs. The brain was otherwise healthy, but the fourth ventricle was dilated and presented, lying free, without connection with the ependyma, an oval cyst of about the size of a single almond. The head of the cysticercus could be seen through the transparent coverings. The floor of the ventricle was smooth, but hard and sclerosed.

Creoline. By Dr. Gaudin (*Journal de Médicine de Paris*, December 9th, 1888).—"Creoline is a dark alkaline liquid, prepared from coal-tar, and forming a white emulsion with water. It is a nostrum" (the "Extra Pharmacopœia," fifth edition, p. 163).—Dr. Gaudin states that creoline possesses active hæmostatic properties, through the coagulation of the blood, by the phenic acid which it contains. Uterine plugs, saturated with creoline, have been employed to arrest *post-partum* hæmorrhage. Creoline has also antiseptic properties, which will advantageously compare with other agents of the same kind. In no case has creoline proved poisonous. It is eliminated in the urine (injected daily two grains), without the injurious effects of iodoform, sublimate, or phenic acid. It has no ill effects upon surgical instruments. Dr. Gaudin has employed this substance in obstetric practice successfully.

Note on a (Nervous) Affection, characterised by Astasia (Dysphoria) and Abasia. By Dr. Paul Blocq (*Journal de Médicine de Paris*, December 9th, 1888).—The fundamental characters of this affection are as follow. The patient, being seated or reclining, nothing abnormal is observable. The muscular power, the sensibility, and the co-ordination of the muscles are unimpaired, so that any prescribed movements can be executed. When, however, the patient is desired to stand up or to walk, anomalies are perceived. Sometimes there is an absolute impossibility, the patient would fall if not supported. Sometimes he drags himself along, or what is more frequently the case, the attempt at progression induces a series of inco-ordinated movements; veritable contortions. Nevertheless, other modes of progression than the normal walk, remain, such as jumping, climbing, swimming, crawling on all fours, etc. The principal fact, in short, is the integrity of the muscular power in the recumbent position, and their abeyance in the special actions of walking and standing, whence the terms *astasia* and *abasia* proposed by Dr. Blocq. The course of the affection is variable—it has lasted from three to five months. As a rule recovery takes place, under the treatment applicable to hysterical disorders. The diagnosis is often difficult to make from ataxia, cerebro-spinal meningitis, Friedreich's disease, etc. Both sexes, and all ages, are liable to this form of nervous disorder. The cause is sometimes of an emotional nature, or it may be a slight wound.

Histological Examination of Muscles after Tenotomy. By Dr. Krauss, Breslau (*Fortschritte der Medicin*, December 1st, 1888).—The author found that after the division of the *tendo achilles* there was progressive atrophy of the muscle, to the extent of 51 per cent. loss of weight in eighty days. In the tendon itself an increase of cells and areolar tissue was found, also in the muscles there had occurred an increase of cells and fibrous tissue, together with augmentation of fat cells, and diminution of the muscular fibres. It would seem that there is a relation between these two conditions: the interstitial changes and the muscular atrophy. The human muscles, Dr. Krauss observes, do not undergo after tenotomy such extensive degeneration as those of lower animals. The author is of opinion that subacute inflammation follows on tenotomy. After neurotomy the muscular changes are variable, and resemble those above mentioned as occurring after tenotomy, but attended with a primary interstitial inflammation.

The Pasteur Treatment (*Le Progrès Médical*, November 24th, 1888).—M. Odo Budjwid, of Varsovia, reported that he had treated from June, 1886, to January, 1887, 104 persons bitten by mad dogs, or by dogs supposed to be rabid. The treatment consisted in the inoculation, with spinal cord, for fourteen days. One case proved fatal, not having come under treatment until nine days after the bite. Subsequently M. Budjwid had tried the weaker inoculation upon 193 persons, of which number he registered eight deaths. The intensive treatment of Pasteur was put in practice upon four individuals, who have remained in good health. M. Budjwid has since inoculated 370(!) persons without the occurrence of one fatal case. Eight individuals, who were not submitted to the treatment, had died, in Varsovia or its vicinity. The intensive treatment, Dr. Budjwid infers, is therefore proved, not only to be innocuous, but perfectly efficacious.

Treatment of Diphtheria by Benzoate of Soda. By Dr. Geay (*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, December 9th, 1888).—Dr. Geay draws attention to the successful treatment of diphtheria by benzoate of soda, under the use of which he has not lost any cases. The remedy is given internally, at short intervals, and applied also to the fauces by spray. At the same time the vapour, charged with carbolic acid, is kept by the patient's bedside. In twenty-four hours great amendment is seen, and in from three to four days Dr. Geay says that the patient is out of danger.

Saponaria Alba, an Emmenagogue (*Der Forsschritt*, Genf, December 5th, 1888).—Dr. Blumensaadt recommends the saponaria alba as a most efficient and certain emmenagogue, perfectly harmless in its effects. As a syrup, a tablespoonful is to be given three times a day. The desired result will be obtained in four or five days. It may be given also as an alcoholic extract in doses of $\frac{1}{8}$ to $\frac{1}{6}$ gr.

Safranin a New Test for Diabetic Urine (*Der Forsschritt*, Genf, December 5th, 1888).—Dr. Crismer, of Siege, has investigated the reactions of safranin with grape sugar, and gives the following as a test for diabetic urine. One centimetre of urine is to be heated in a test-tube to the boiling point, with a solution of soda, ley, and the addition of five centimetres of safranin (1-1000). If the colour is discharged, diabetes is present.

Clinical Observation upon Calomel as a Diuretic and Hydragogue. By Dr. Stintzing (*Forschritte der Médicin*, December 15th, 1888).—The diuretic action of calomel has been observed by Dr. Stintzing in twenty-seven cases of dropsy from heart disease, several of these having been complicated with liver and kidney disease. It has a much less diuretic power in the absence of dropsy. Its most effectual influence is seen in valvular obstruction, and in the combination of heart with secondary kidney disease. The removal of fluid from the kidneys under the influence of calomel is much assisted by its effects upon the intestines.

Pyrodine; a New Antipyretic (*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, December 2nd, 1888).—Dr. Dreschfeld submits the following conclusions:—(1) Antipyrine is a powerful antiseptic; (2) it rapidly reduces the temperature of fever patients, and maintains the reduction for several hours; (3) it is readily taken—does not produce nausea; (4) it is equally efficacious in pneumonia as in fevers; (5) it is less suitable to typhoid; (6) it acts equally well in migraine and neuralgia; (7) it should not be administered more than once in eighteen or twenty hours, or it will exert a toxic action; (8) it has acted where other antipyretics have failed; (9) dose forty to sixty centigrammes for adults, ten to twenty centigrammes for infants; (10) it is seldom requisite to give more than one dose in twelve or eighteen hours; (11) pyrodine reduces the number of the pulse; it induces diuresis; (12) it is a white crystalline substance, with very little taste. (Syn. acehyl-phenyl-hydroxine $C_6 H_5 N_2 H_2$ or $C_2 H_3 O$.)

II.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

The Society of Medical Jurisprudence and Public Exhibitions of Hypnotism (*Journal de Médecine*).—At its last sitting the Society of Medical Jurisprudence discussed a question which is at once interesting to the legislator, the doctor, and the public. The question was: "Should public exhibitions of hypnotism be prohibited, such exhibitions having become very fashionable in recent years?" One of the pupils of Dr. Charcot (Dr. Gilles de la Tourette) has depicted a striking tableau of the phantasmagorical scenes which result from these exhibitions of hypnotism. A large number of the women who witness these *séances* are seized with attacks of hysteria; they dream of hypnotisation, magnetic passes, suggestions and other manœuvres which are very fashionable at the Salpetriere school. These women afterwards congregate in small committees to hypnotise each other, and to suggest to each other the most unlikely ideas. Thence arises very justifiable recriminations from the husbands, who find it very unpleasant that their wives should neglect their homesteads in order to follow the Donatos, who always take good care to proclaim themselves *pupils of the Salpetriere*. We

think, with Dr. Gilles de la Tourette, that public exhibitions of hypnotism are open to very serious objections, but we are too strong advocates of individual liberty to conclude that they should be prohibited. In fact, the public are not compelled to take part in the *séances* of Donato, in the same way that the notorious conferences at the Salpetriere are not obligatory on medical students. Besides, if these public exhibitions of Donato are prohibited, there will be an increased desire to witness them, and they will become more popular after than before prohibition. Yes, we hold that hypnotism, recently made fashionable through the school of Salpetriere, is open to serious objections, and that it constitutes a school of hysteria; but on examining the question conscientiously, could we not bring to bear on our physicians the responsibility for what takes place in public? May we not believe that the brilliant professorial lectures of Dr. Charcot at the Salpetriere, conferences to which a large audience of ladies, and of journalists who are not members of the medical profession are invited, have contributed in some degree to create in the public mind a dangerous mania for hypnotism and suggestion? Last year we were much saddened by seeing an enormous canvas representing a woman, a prey to hysterical convulsions, and distorting her frame in the presence of Professor Charcot and his pupils, publicly exposed at the Salon of Painting. We can hardly think that this canvas could have been painted without Professor Charcot's knowledge; we have even a conviction that the eminent professor and his pupils must have devoted much of their leisure time to sittings before the artist. However that may be, the school of the Salpetriere has entered no protest against such a display, made before thousands of spectators, and reproduced in all the illustrated papers. To this point, then, has hysteria been developed in France. Let us, at least, have the courage to admit that if there exist Donatos who trouble the minds of our womankind, the true cause is in the undesirable exhibitions which the medical body may regret and repudiate, but on whom the responsibility must unhappily fall.

Treatment of Wounds by Free Exposure to the Air (*Journal de Médecine*).—Dr. Le Fort, in opposition to the doctrines of Lister, holds that the air exercises no influence on open wounds, and denies that germs of disease are transmissible by the atmosphere. He only admits the transmission of diseased germs by instruments, the hands, etc. The dressing of wounds in the present day requires many precautions, which would prove impracticable in time of war. Dr. Le Fort has endeavoured to demonstrate in an unmistakable manner that air, even that of hospital wards, exercises no evil influence over wounds, and that the prevailing doctrines are erroneous. In order to prove his theory, he has resolved to allow all wounds amongst the patients he has operated on to remain in immediate and permanent contact with the air. He has in his hospital practice—either cured, or on the way to be cured—three amputations of the thigh, three amputations of the leg, an amputation of the foot, a resection of the knee, a resection of the elbow, and many other less important operation cases. All these amputations are healing by first intention, without suppuration, a result which is diametrically opposed to the theory of Lister. Dr. Le Fort merely points out these results, and intends to make a further communication when his observations are more complete. His communication will be awaited with eager interest.

Tylophora as an Emetic (*Journal de Médecine*).—The leaves and roots of this plant are being used, and have been admitted into the Pharmacopœia of India. The leaves are emetic, diaphoretic, and expectorant; they are used in the treatment of gastric troubles in all cases in which emetics are indicated, also in dysentery and catarrh. The dose of the leaves (dried and powdered) is from 1½ to 2 grammes as an emetic; in smaller and frequently repeated doses, it is a cathartic; as an expectorant and diaphoretic, the dose is from twenty to thirty centigrammes three times a day, or oftener if necessary. The root is also employed as a substitute for ipecacuanha; in large doses it is emetic, in small and frequently repeated doses it is cathartic. Its value in dysentery has been long recognised by native doctors, and European medical men are now confirming its usefulness. In Mauritius, tylophora is employed as ipecacuanha, and bears the same name.

Enteroptosis, or Glènard's Disease (*L'Union Médicale*).—It is well known that neurasthenia is a kind of caput mortuum in clinical work, and that it includes all those cases in which the nervous system is deeply implicated, and in which no very exact diagnosis is possible. Dr. Glènard has attempted to define at least one variety of neurasthenia, to which he assigns the name of enteroptosis. Enteroptosis is due to predisposing and determining causes; the chief predisposing cause being the feminine sex and childbirth, as established by the statistics of 200 cases. Another predisposing cause is the pressure of stays, which depress the liver. The determining causes of enteroptosis are exertion and injury: thus the lifting of a heavy weight may give rise to a cracking sensation, accompanied by a sharp pain in the right hypochondriac region, above the umbilicus, and below the false ribs. The effort need sometimes be only very slight, especially after confinements, in order to produce enteroptosis. As secondary causes, the disease may follow long-standing dyspepsia, resulting from gastric atony, typhoid fever, dysentery, local peritonitis, or perityphlitis. In these latter cases adhesions may take place between the ascending and transverse colon. Finally, wasting, or the neurasthenia of convalescence, is alone sufficient to give rise to the disease. The fundamental lesion, which is constant, and which has been found in every autopsy when death has resulted from intercurrent disease, is a falling of the hepatic flexure of the colon. At this point there is no suspensory ligament proper to the intestine; whilst the pyloro-colic ligament attaches the transverse colon to the stomach. The bend of the colon is badly upheld, and falls. The ligament raises the transverse arch towards the centre, thus forming two secondary arches; the first and second portion of the transverse arch communicating by the sub-pyloric orifice. The remaining lesions are the contractions of the digestive tube at the level of the points by which the digestive bends are firmly fixed (gastro-duodenal, duodeno-jejunal, transverse sub-pyloric colon, and left sub-costal sigmoido-rectal colon, rings or orifices). These contractions are produced, according to Glenard, because the digestive tube is raised at intervals, and the angles thus formed are fixed to the posterior parts of the abdomen. There are seven intermediate bends, and six orifices, which are influenced by the prolapsus of the corresponding bends. The true suspensory ligament of the small intestine is formed by the fibrous band, which descends with the superior mesentery in front of the duodenum, when the small intestine is devoid of flatus, and flaccid. The duodenum, in order to pass its contents into the jejunum, has to uphold a weight of at least half a kilogramme; the permeability of the duodeno-jejunal orifice is therefore readily affected. Thus the initial lesion is a displacement of the right flexure of the colon at the least fixed point, followed by static disorders of the small intestine, and entero-stenosis, which is the consequence. But this is not all: it is shown that the transverse colon is attached to the stomach. What is to become of this organ, which has alone to uphold the transverse colon? It will become displaced, and there will be gastroptosis. In fact, the greater axis of the stomach often becomes vertical, is dragged down, and descends into the iliac fossa, and there is frequently, although not constantly, dilatation of the organ. Then it often happens that angular atresia of the gastro-duodenal origin is produced. All this leads to vomiting, dyspepsia, flatulence, etc. The displacement of the stomach is due to the resistance of the intestine by its weight to the upward movement of the ventricle, whilst it contracts and unloads itself into the duodenum. After this, gastric atony may follow. Thus is established a vicious circle, which prolongs the disease indefinitely.

Dr. Glenard lays stress on the frequent biloculation of the stomach, which may account for such symptoms as frequent vomiting immediately after a meal. In enteroptosis it frequently happens that the spleen, liver, kidneys, etc., are also displaced. The anatomy of Glenard's disease may be briefly described as a general descent of all the abdominal viscera, commencing with the right flexure of the colon. The subjective symptoms of Glenard's disease are those of all forms of neurasthenia, and are classified in the order of their constancy, and in the order of their appearance, which concur in the majority of cases.

(1) *Symptoms of Asthenia.*—Debility, habitual lassitude, weakness of the stomach, weakness in the loins. These symptoms mostly appear simultaneously.

(2) *Meso-Gastric Symptoms.*—Tinnitus aurium, sensation of weight, of emptiness, false appetite.

(3) *Gastric Symptoms.*—Flatulence, and accompanying distension, sensation of suffocation, hiccough, gaping, vapours, eructations, pain, cramps, more or less frequent and constant vomiting, pyrosis.

(4) *Nervous Symptoms*, either cerebral or spinal.—Sleeplessness, irritability, sweats, shiverings, hypochondria, melancholia, impotence, headache, giddiness, cough, palpitation, polyuria, cramps, neuralgias, attacks of sub-hepatic pain simulating true colic, etc., etc.

The two first groups of symptoms (asthenic and meso-gastric) are accompanied by four signs, to which Dr. Glenard attaches great importance:—

(1) Awaking at two o'clock in the morning with a feeling of hunger, or colicky pains in the hypogastrium, more or less marked insomnia.

(2) Exacerbation, or the production of discomfort on rising, and at three o'clock in the afternoon.

(3) A constant relation (disguised or otherwise) between the discomforts and the nature of the food (aggravation of the symptoms after partaking of apples, acids, vegetables, wine, milk, etc.)

(4) Irregularity and insufficiency of the motions, constipation, diarrhœa, alternation, special insomnia, and intolerance of milk, are, according to Féréot, the most important of these symptoms.

The physical signs must be obtained by a methodical examination of the abdomen, for which Dr. Glenard lays down very minute rules. The belly bulges, expands, and sometimes assumes enormous proportions. It remains supple on palpation, is moist and flaccid. There is abdominal depression of the hypochondriac regions, showing defective tension of the abdominal walls. About two centimètres below the umbilicus may sometimes be felt a full cord rolling beneath the finger, the cord of the colon. This cord, however, it is almost impossible to make out in obese patients. The signs of displacement of the spleen, etc., are then described. The following test is serviceable in establishing the diagnosis :—The doctor places himself behind his patient, passes his arms under the arm-pits, and placing both hands flat on the lower abdomen, raises it bodily. A sense of relief is immediately felt. If this upward pressure is suddenly relaxed, there is an immediate return of discomfort and painful symptoms. The course of Glenard's disease is slowly progressive. Symptoms of cæcal disturbance, gastric intolerance, and irregular action of bowels, lead to all the oft-described symptoms of neurasthenia. Wasting takes place, and the facial aspect is changed. The condition is always one of misery; and if the pathogenesis is misunderstood, treatment is of little value. Death may ensue from some inter-current disease, or very rarely from inanition. Generally, patients continue in a deplorable condition until the approach of old age, when occasionally a spontaneous improvement takes place. Dr. Glenard does not confuse enteroptosis with dilatation of the stomach or chemical dyspepsia, but only recognises clearly-defined cases. The test of the diagnosis is to be found in the efficacy of the treatment. Appropriate treatment yields excellent results, and permits of the cure of patients who have been treated unsuccessfully for anæmia, metritis, uterine prolapsus, hypochondria, hysteria, and many other diseases for which this variety of neurasthenia may be mistaken. Preventive measures include the wearing of a belt during and after confinement, and the treatment of the earliest signs of weakness or prostration. If the disease is fully established, the indications are :

(1) To raise the intestinal mass.

(2) To increase the tension of the abdomen.

(3 and 4) To regulate the evacuations, and promote the intestinal secretions.

(5 and 6) To nourish the patient, and give tone to the system.

The first two conditions are fulfilled by wearing a low pelvic bandage night and day; the third and fourth by a daily saline laxative; the diet without wine, milk, or any article known to be injurious, will answer the fifth indication; and hydro-therapeutics the sixth. One and a half grammes of bicarbonate of soda, taken with meals, completes the therapeutical treatment.

The German Emperor (*L'Union Médicale*).—The disease from which the Emperor William is actually suffering is considered by French surgeons, whether they are right or wrong, to be a caries of the internal ear, and begins now to form an object of discussion in the Berlin medical societies. Pure otologists and surgeons (amongst others, Bergmann) form two sharply-divided camps; the one boast of the benefits derived from antiseptic irrigation, whilst the other insists on the necessity of trephining the mastoid apophysis, followed by scraping the seat of the abscess.

Local Application of Cocaine in Whooping-Cough (*Journal de Médecine*).—Dr. Veillard recommends the application of a 5 per cent. solution of cocaine to the pharynx and tonsils by means of a brush, in order to diminish the violence of attacks of whooping-cough.

III.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

Antipyrin as an Anodyne in Normal Labour.—In the Moscow bi-weekly, *Meditzinskoïe Obozreniie*, No. 23, 1888, p. 1033, Dr. M. Z. Kananoff, of Tiflis, says, that, in order to verify Dr. Sielski's statements (*vide infra*), he has tried antipyrin in twenty-one cases of normal labour. The drug was administered either (*a*) internally, in 15-grain doses, two, three, or four times, with half-an-hour intervals; or (*b*) internally, two 15-grain doses, and *per rectum*, a 10-grain dose; or (*c*) internally, one or two 15-grain doses, and hypodermically, two 8½ or 7½-grain doses; or (*d*) *per rectum*, two enemata with 15 and 20 grains. The outcome of Dr. Kananoff's experiments is this: 1. The action of antipyrin is by no means constant (only in six cases good anodyne effects were obtained; in the remaining fifteen patients the remedy proved to be entirely inert). 2. In a considerable proportion of cases (in seven out of twenty-one), the drug shortens the duration of uterine contractions and lengthens the intervals between them. 3, Its administration involves the necessity of more frequently rupturing the fœtal membranes (5 cases). 4. It gives rise to an increased *post-partum* loss of blood (in *six* cases a *profuse* flooding occurred; "in many other patients the bleeding was more considerable than in those delivered without the drug"). 5. In view of all the facts, antipyrin should not be urged in labour. 6. It does not seem, however, to produce any unfavourable influence on the infant.

[In the Polish *Wiadomosci Lekarskie*, No. 10, 1888, p. 289, Dr. F. Sielski, of Lvov, Austrian Galicia, describes four cases of labour where he most successfully employed antipyrin in one-gramme doses, repeated every couple of hours. The administration was invariably followed in a few minutes by an almost complete cessation of pain, while uterine contractions remained as strong as before.—*Reporter.*]

Ectopia Vesicæ Urinariæ.—Dr. Stankiewicz (pron. "Stankevitch," a Polish name), of Warsaw, records (*Wiadomosci Lekarskie*, October, 1888, p. 130) a remarkable instance of extroversion of male bladder where surgical interference was crowned with most gratifying results. The patient, a robust, powerfully built man, æt. twenty-six, applied to the author with urgent requests to relieve, by any means, his miserable condition, which had become absolutely intolerable for him. On examination, a typical ectopia was found, the penis being very short and flattened, but the testicles were situated normally. There was a left-sided hydrocele, while the whole inguinal regions, as well as the scrotum and penis, were covered with numberless excoriations and erythematous patches, caused by an incessant flow of the urine. A whole series of plastic operations (fifteen in number, in the course of seven months) proved to be necessary to cover the defect in the abdominal wall, every one of which was associated with "unheard of (*Nieslychanie*) difficulties for the surgeon, and most agonising pain for the patient, who could not be kept under the influence of chloroform, since the latter invariably gave rise to an intense excitement, making impossible any manipulations." The flaps for closing in the bladder were made of the adjoining lateral abdominal skin, while the upper moiety of the urinary tube was formed of the scrotal integuments. The last operation over, the man found himself able to hold a half of tumblerful of his urine when lying, but on his resuming an erect posture, the vesical contents immediately escaped. To remedy the condition, Dr. Stankiewicz invented a simple, but ingenious appliance, which consisted of a small light pad placed under the penis, and secured to a belt round the waist sufficiently tightly to produce a pressure on the root of the urinary tube in direction from below upwards (that is, to close the lumen of the tube). On removing the pad, the urine would flow; on re-adjusting it, not a drop would escape. When shown to the Lvov Meeting of Polish Practitioners, the patient was quite well and felt most comfortable. A similarly successful case had been demonstrated by Dr. Szeparowicz at the Cracow Meeting.

Suggestive Chloroform Anæsthesia.—In the *Correspondenz Blatt fuer Schweizer Aerzte*, January 1st, 1889, p. 30, Dr. E. Haffter (the editor), of Frauenfeld, writes, that, according to his experience, such persons who are sensitive towards a hypnotic suggestion, very often fall asleep immediately after the adjustment of a chloroform mask, accompanied with some usual soothing words (that is, before any chloroform has been given). Starting from that observation, he now frequently resorts to hypnotisation after the following method which proves successful in his hands, and which he, correspondingly, recommends to the profession. Having placed the patient in a sitting or recumbent position, he holds the mask before his face and orders to shut the eyes, to breathe quickly, and to as quietly sleep. The effects desirable are said to be obtained sometimes most rapidly.

Dr. Haffter's statements are corroborated by Dr. Wilhelm Roth, of Fluntern (*l. c.* p. 29), who has recently employed, in a quite accidental way, the "*pseudo-chloroform-narkose*" in a case of subcoracoid luxation, referring to an anæmic and highly-nervous gentleman. Having addressed to him some assurances to the effect that he "will fall into a quiet sleep under the influence of chloroform and will feel no pain whatever," the doctor commenced the administration of the drug. All of a sudden, after a couple of whiffs, the gentleman began to make deep and even respiratory movements. Being rather alarmed by the circumstance, the author at once discontinued the inhalations and removed the mask. The patient was found actually sleeping as soundly and as quietly as possible, his pupils being widely dilated and somewhat sluggish. Without any delay, Dr. Roth proceeded then with reducing the luxation, but all his manipulations failed on account of an intense muscular resistance. Feeling disappointed, he dropped a cursory remark to some persons standing close by, that "the reduction could be effected only in the case of a relaxed state of muscles." To his extreme surprise, scarcely those words had been uttered, "the muscles as if by magic became quite soft and flabby," and the reduction could be completed "in a jiffey." The doctor's order to "wake up" was similarly obeyed instantly. The gentleman showed a complete amnesia: he stated that he had not felt any pain during the manipulations; nor could he recollect anything about the doctor's involuntary suggestion concerning the "relaxation."

IV.—SKIN DISEASES.

AN APOLOGY FOR A NEW CLASSIFICATION OF SKIN DISEASES.[1]

By C. M. Campbell, M.D., C.M.

I use the word apology in its modern and colloquial, as well as in its old and classical sense, for certainly any addition to the existing plethora of classifications must seem to many an unnecessary infliction, if not, indeed, an impertinence. But while fully conscious that a strong justification for such an attempt is imperative, I am constrained to make it, simply and solely because I can find no restful satisfaction in any of the classifications that I have yet had an opportunity of studying. And here at the outset I would disclaim any pretension to having finally interpretated and satisfactorily stereotyped the solution of the vast, varied, and I will add, paradoxical question. All that I aspired to, has been to construct a chart, as little inconsistent as possible, by grouping the most well-defined lesions so that their positions on it may at once convey to our minds one or more elementary pathological facts concerning physical elements, gold, or platinium, or oxygen, one always identical in every characteristic, whenever they exist in a state of purity; and so the chemist, working with fixed elements, can predicate, with certainty, the result of their re-actions. But a disease is very different, no two examples are identical, and refusing to be bound by human definitions, however adroitly constructed; the combination of phenomena which to-day we have, to our own satisfaction, labelled so-and-so, has, by to-morrow, given place to a fresh combination, which we are fain to label something else. Again, the phenomena held to be characteristic of more than one named disease may be evident on the same spot at the same time, which complex combination the eager nomenclaturist will tabulate in portentous length. Moreover, a lesion may begin in one structure but pass to another, the effect upon the latter far transcending in importance that upon the former, so that the *fons et origo* is apt to be obscured and unrecognised. Such being the objections and difficulties, the question naturally arises, "Why attempt classification at all?" To which I would reply, "Why, indeed, unless we thereby get a clearer conception than we otherwise should, first, of the anatomical site of the initial lesion of any given disease; and, secondly, of the fundamental character of the evolution of that lesion." If our classification accomplishes this, however imperfectly, it has certainly established its *raison d'etre;* if it, or any other, fail to do so, I confess that I cannot see its right to exist.

CLASSIFICATION.

	Site of Initial Phenomena in EPIDERMIS.				Site of Initial Phenomena in DERMA.
CLASS I.—Hyperæmiæ.					
a. Capillary Fluxes					Erythema (many varieties), Eczema, Dermatitis, Furunculus, Rosacea, Superficial Abscess
b. Venous and Venoso-lymphatic Stases					Œdema, Cyanosis, Scleroderma, Gangrene, Purpura, Scorbutus, Myxœdema, Ecthyma, Nævus
CLASS II.—Neuroses.					
a. Trophic					Herpes (Zoster, etc.), Neuritic, Erythemata, Pemphigus and Decubitus, Urticaria, Prurigo, Alopecia Areata (one form of)
b. Sensory					Pruritus, Neuralgia
CLASS III.—Developments and Retrogressions.	*Cornification:*	*Pigmentation:*	*Prickle Cells:*	*Glands and their Products:*	
a. Hypertrophic	Ichthyosis, Lichen, Cornu, Trichosis, Onychosis	Sphelides, Lentigo, Chloasma, Nævus (Non-vascular)	Verruca, Condyloma	Comedo, Seborrhœa, Hyperidrosis, Steatosis	Myoma, Fibroma, Angioma, Neuroma, Lipoma, Zanthoma, Keloid, Rhinaphyma
b. Atrophic	Alopecia Pityrodes	Albinism, Leucoderma	Pemphigus	Leioderma, Zeroderma, Anidrosis, Asteatosis	Alopecia Senilis
c. Vicious	Psoriasis, Pityriasis	Icterus, Morbus Addisonii, Argyria	Epithelioma	Milia, Acne, Sycosis, Molluseum, Idroses(various)	Sarcoma
CLASS IV.—Invasion of Micro-organisms.					Syphilis, Tuberculosis, Scrofuloderma, Lupus (varieties), Anthrax, Erysipelas, Impetigo, Pemphigus (one form), Lepra, Endemic Furunculus, Rhino-scleroma, Exanthematous Fevers, Elephantiasis
CLASS V.—Gross Parasites.					
a. Animal	Pediculi (various). Acari (various), Cimex, Pulex, Obstrus, Leptus Autumnalis, etc.; Cysticercus, Echinococcus, Filaria Medinensis, Filaria Sanguinis Hominis, etc.				
b. Vegetable	Tinea: Favosa, Achorion Schönleinii; Tonsurans, Circinata → Tricophyton Tonsurans; Sycosis, Microsporan Martagraphytes; Versicolor, Microsporan Furfur; Alopecia Areata (one form of), Microsporan Andonini				

them. To fulfil such an essay completely is, I am well aware, impossible, enough for me if I can sketch a scheme which, with all its shortcomings and plans, may command itself to common sense, as a provisional help to a most perplexing study. A perfect classification is, in our present state of ignorance, an unrealisable ideal: shall we then abandon all attempts to evolve order out of class? Certainly not; but let us rather do the best we can, with the imperfect and scanty knowledge we as yet possess, conscious of our blindness and our faults, and, in all humility, merely hoping that our efforts may prove provisionally useful, until more light shall shine upon the dark places of dermatological science, till the crooked shall be made straight, and the rough places plain.

The reasons why all classifications must necessarily be imperfect are not far to seek. In the first place, when we name a disease, we do not thereby imply that it is a definite universal entity, like one of the

Some classifications are deserving of our most respectful attention, even though we cannot see our way to adopt them; but there are others again which recall to mind a work upon "English Dogges." by the very learned, but very unscientific founder of Caius College, Cambridge, who tabulated a distinct class, or breed, or species of dog, which he designated "the Mooner" (*Caius Lunarius*), all on account of "a quality, in mine opinion, strange to consider, of bawing and wawing at the moone." But it is surely little, if any more scientific, to place widely different dermatoses in our class, merely because they are characterised by a single common feature, or present certain morphological analogies. Thus we find, say a class headed "Pustulæ," which would include the minute traumatic abscess caused by the presence of a thorn-point, or splinter, acne, scabies, furunculus, impetigo, variola, and various syphilides; or if not, why not, for they are all "pustulæ,"

[1] An Abstract of a Paper read to the Willan Society of London, March, 1888.

literally and truly, although fruit of very different trees? Does this arrangement then afford us any elementary information as to the etiology, pathology, or significance of any one of these lesions, of which pustulation is the *only* feature common to all? What should we say of the zoologist, who placed in one class a bat, a bird, and a beetle, because all possess wings; or a cow and cuttlefish, because both have eyes and a tough skin? Yet if we elevate vesiculation, pustulation, or exfoliation, to the position of representing the essence of all the lesions which are classed under them, are we one whit more scientific? I venture to think not. Other classifications again, in my humble opinion, are all too diffuse and complex, drifting away from the essential and salient characteristics into endless minutiæ and hair-splitting; piling up a portentous catalogue of compound names, which the bewildered student tries in vain to recollect, or even to understand.

As has been said, the name of a disease does not represent an invariable entity, but merely denotes the existence of certain abnormal phenomena, co-existing in one spot, in limited proportions, at a given time. For example, by the words "erythema pernio," we express a concatenation of phenomena induced by cold—viz., paresis of the *nervi vasorum*, with resulting hyperæmia, and stasis, but not rising to the height which we should designate dermatitis, with more or less pain, occurring simultaneously in a given area. Some names are thus easily defined, but others are most difficult to define in terms which would be accepted by every dermatologist. It is, therefore, of great importance in framing a classification, that every effort should be used to employ only the simplest names, which convey the most definite and least variable pathological meaning, letting it be understood that the one broad title includes all the varieties, with their different qualifying descriptive adjectives. A chart should not aim at being an epitomised manual, and those which have endless strings of adjectives introduced to denote every conceivable variety, lose both crispness and breadth, to use artistic expressions, and fail to impress the understanding of the student. Doubtless, from an academic point of view, it is desirable that every combination of phenomena, which is sufficiently differentiated from all other combinations, so as to be clearly discernible, should be named and placed in a complete scheme of classification. But admitting this, I think that the fewer adjectives we introduce the better, so as to keep the scheme as simple as possible. Adjectives implying varieties have their proper place in the pages of a descriptive manual, rather than on a chart. And now I must at once admit that, in the scheme which I venture to lay before you, some names are placed in a certain position which might have been placed elsewhere. While, in general, professing to make the position of any given disease depend partly upon the anatomical site of initial lesion, I have not been consistent in so doing. Where the secondary phenomena have dwarfed the initial into insignificance, I have felt constrained to place the name of the disease where, clinically, we should expect to find it.

Take, for example, eczema, the initial lesion of which may be in the feebly vitalised prickle cells of the epidermis, but which owes its most prominent characteristics to hyperæmia and the resulting phenomena. And you must remember that a very large number of epidermoses involve the derma, also sometimes causing hyperæmia, as in acne, psoriasis, etc. Dermoses also may secondarily affect the epidermis, so that the position of some of the lesions on my chart are, undoubtedly, open to criticism. Leucoderma, for example, might have been placed as a tropho-neurosis of the epidermis. Still, I have endeavoured to keep to the rule of placing each in the division in which is the *fons et origo mali*. Now, what are these two grand divisions? They are simply the anatomical ones. 1. The epidermal structures, with their appendages, glands, hairs, and follicules. 2. The derma, including the papillæ, capillaries, lymphatics, and nerves. And I feel very sure that we shall lose nothing, but on the contrary gain a great deal by always keeping in mind this question, "*In which of the two is the initial fault?*" Keeping this great anatomical division in mind, I must pass on to consider the classes, of which I see no reason for having more than five—viz., 1. Hyperæmiæ, with its sub-classes, capillary congestions, and venous stases. 2. The neurosis. 3. Abnormal developments and retrogressions. 4. Invasions of pathogenic micro-organisms. 5. Lesions caused by parasites, animal or vegetable.

Now, I venture to maintain that there is no known form of skin disease which cannot with perfect propriety be placed under one of these five classes, although I frankly admit that we may be somewhat puzzled as to which of these may be its proper one. Some on the chart, I daresay, you may think misplaced, but I can only assure you that I have placed each where you see it, not from whim or prejudice, but because I had what I considered good reason for so doing. Of course I cannot take up the pathology of each one separately, yet I should really require to do so to justify my plea; but as I find that my notes upon them take about three hours to read, I think that you will excuse me, as well as yourselves, from such an ordeal. I shall, therefore, content myself with a rough review of these five classes, and then leave it to you to question me concerning the faults and inconsistencies of my scheme.

Now, first as regards the hyperæmia—a large and important class. Congestion of the Papillæ may arise from paresis of the nervi vasorum, due to irritants from within or from without. The congestion may run on to stasis, exudation, diapedesis, and the formation of pus, to venous, or venoso-lymphatic stasis, and the latter, when established, tends to become chronic, and to perpetuate or excite afresh the arterial flux, all of which phenomena are common to the diseases in this class.

I now turn to the neuroses, and would remark that the nerve fibres which have been traced by Unna and others into the prickle cells of the epidermis, appear to be concerned with the functions of those cells—viz., cornification—and not with common or special sensation, so that, strictly speaking, many of the epidermoses may be initiated by abnormal action or paresis of these nerves. We have, besides, other lesions due undoubtedly to grosser forms of paresis, as well as to irregularities of function of the nerves of the derma, whether sensory, vaso-motor, or sympathetic.

I pass next to developments and retrogressions, which require little explanation. I have made three sub-classes—viz., hypertrophy, atrophy, and vice. I use the word vice to denote pathological formations of tissue which are different to mere increase or decrease of normal tissue.

As regards the fourth class, I daresay you may not all agree with me that a specific contagium vivum is the *fons et origo mali*. Still, when I know that in many of these diseases the lesions supply material which can be cultivated on sterile blood serum in an incubator *ad infinitum*; that a long series of plates or tubes can be inoculated one after the other, from each in succession; and that from the last of the series we can obtain micro-organisms which, when inoculated in a living subject, reproduce the original disease, I am forced to the conclusion that this living micro-organism is the real and essential *materies morbi*. This has been done with anthrax by Pasteur, with erysipelas by Fehleisen and by Ranvier; with the Pendjeh sore by Cunningham; with glanders by Strück and by Bouchard. It has been proved with regard to syphilis, all but the inoculation upon a virgin subject, for as you may well suppose no man is found willing to adopt this certain method of acquiring it, however ready he may be to run the risk of so doing in another way, and as animals will not take syphilis the final test is wanting; but as the bacilli have been noted and cultivated, always presenting the same characters as their progenitors, the inference is very strong that here, also, we have found the contagium vivum. Indeed, we can reason the matter out another way, and this holds true of all the exanthemata as well.

We are all agreed that when one person affects another something of the nature of a poison passes from the one to the other. Now what is this something? It is very minute, so that a mere scratch with an infected needle will convey it. Well, a poison must be either inorganic, such as arsenic, or organic, such as strychnine, or a ptomaine, as rattlesnake poison, or it must belong to the bacteria. I do not know of any other forms of poison. Now all these forms, except the bacterial, have this common characteristic which distinguishes them from it—that you cannot regain from the poisoned subject more of the poison than you put in; you may probably recover less, perhaps as much, but certainly not more. But inoculate a man with the $\frac{1}{100}$th of a minim of variola pus, and in a given number of days your poison will have reappeared multiplied a millionfold. Every minim of pus from the pustules of your subject is capable of inoculating one hundred men more, so that your original poison has increased in quantity amazingly. In other words, the bacteria have reproduced themselves in myriads, and a thing which is capable of reproduction possesses that which no mere chemical or alkaloid has—life. And, as I have already said, we can cultivate many varieties of infective bacteria away from the body, watch them through many generations, and reproduce them, with all their pathological consequences, in a fresh living subject.

Finally as regards the parasitici. I have not thought it necessary to carry the two anatomical divisions of epidermal and dermal into this class, for that division now ceases to be a practical aid to understanding. The organisms in this class are more coarsely obvious than in class iv., some being visible to the naked eye, and all being so under comparatively low powers of the microscope.

Such, then, is broadly and briefly the scheme which I venture to propound for a practical working classification of skin diseases. I hope you will by your criticisms aid me in correcting its many imperfections, for I can honestly assure you that none of you can be more conscious of its shortcomings than I am.

V.—SELECTIONS FROM CONTINENTAL JOURNALS.

By our Spanish Correspondent.

The Falkenstein Consumption Cure (*Revista de Ciencias Médicas*).—Not far from Frankfort, in a sheltered valley of the Taunus range of mountains, lies the little village of Falkenstein, amid the most charming scenery, completely isolated from the world, and yet within easy reach of the city, itself one of the cleanest and healthiest in Europe. There Dr. Dettweiler has established a home for the treatment of consumptives, on the system devised by Brehmer, and carried out by him for many years past at Görbersdorf in Switzerland. The method is simplicity itself: free exposure to pure cold air, and the proscription of all drugs which have gained any reputation in the treatment of the disease. Then the patients are to be lodged in an establishment devoted solely to their reception, under "a benevolent despotism," a discipline of mingled kindness and firmness; the building or buildings being located near to, but not in, some healthy mountain village, well sheltered from the wind, free from dust, and far from the friction and excitement of ordinary hotel life.

Except under medical dispensation all must be out of bed by 8 a.m., the first breakfast of milk, cognac, and bread being served in the open air at a quarter past that hour; then the patients sit in comfortable arm-chairs with an awning above them, out-of-doors if the weather be fine, but in covered galleries when there is rain, and these are only protected by canvas blinds in front when it is very bad indeed. The greater number of the cases pass twelve hours daily in the open air, sufficiently but not too warmly clothed, breathing the fresh air, whether there be sunshine, rain, or snow. In the winter they retire to their rooms between five and six in the evening; but, whatever the season may be, they sleep with the windows half open, and with their arms lying outside the bedclothes. At the beginning of the treatment—except in the slighter cases—absolute rest is enforced; the patients sit in the gardens, or within the galleries, in their chairs, each with their own private spittoon—for it is forbidden to expectorate on the ground, or into one's handkerchief—passing the time as they please, in reading, quiet conversation or dozing the hours between the meals away. Then, as the strength improves, exercise, not exceeding for a quarter of an hour a day, is permitted; afterwards three times a day, and eventually for longer periods, but still with regulated intervals of repose; rest, with pure air, or rather in the open air, being the key-note of the treatment. There are three meals a day—meat, eggs, pulse, bread, butter, conserves, creams, wine, and liqueurs. Cheese is forbidden, but the patients are invited to take milk and brandy between meals whenever they care for it. Cough is checked by sipping a little very hot or very cold water, and they are taught to cough only when it is necessary to expectorate, and then only after thorougly filling the chest with air. Night-sweats are checked or abolished by friction of the body and limbs, either with a dry cloth, or a felt glove moistened with alcohol, night and morning. Two drugs are alone made use of: antipyrin, if the temperature do not recede under complete rest; and a small dose of morphia if the nights are restless. The carrying out of this system requires extreme firmness and vigilance on the part of the medical attendants. "I am the head master of a school," said Dr. Dettweiler, smilingly, to the author, "and the work is very hard, but I turn out absolutely cured twenty-five per cent. of my scholars!"

The Microbe of Hydrophobia. By Dr. Ferrán, Barcelona (*Revista de Ciencias Médicas*).—"In the publication of scientific discoveries one cannot be too careful to verify every step in the processes employed, and I only venture to make known my own," says the author, "after having examined and re-examined in every stage of my investigations with the most scrupulous care. It may seem, perhaps, that these means were after all extremely simple, but the most difficult problems are often happily solved by the very simplest analysis, the apparently insuperable by the most primitive."

The microbe of rabies exists chiefly within the migrating cells of the plasma-spaces of the nerve centres, and in similar cells found in the cerebro-spinal fluid; and the mode of securing these is as follows: As soon as a dog suffering from the disease dies, the skin and muscles should be dissected from the back of the neck, so as to expose the atlo-occipital articulation; the carcase should then be placed on an inclined plane with the head downwards; then, with the thermo-cautery, an eschar should be made over the articulation, and with a sterilized bistoury the sheath of the cord is opened through the burnt space. The fluid is then collected in small spindle-shaped tubes with capillary ends, which have been, of course, sterilized when made, and the points melted, these are broken off at the moment of filling, and at once resealed. The rachitic fluid of a single dog will fill a dozen of these little tubes; when charged they are placed horizontally in a box, and left for some time in complete repose. After a few days, at a temperature of 20° Cent., one sees in some of the tubes a pale line of deposited cells with one or more white points, extremely small, yet still visible to the naked eye; these are colonies of the microbes in question. The groups are always few in number, and only one out of many tubes may contain them. This explains why animals may be inoculated with the cerebro-spinal fluid of an unquestionably rabid dog, and yet not acquire the disease. And is probably due to the paucity of the pathophoric cells which contain the microbes, or that these latter have not always vitality enough to make their way through their walls. By succussing the tubes strongly the colonies can be broken up, and the fluid becomes opaline; whilst healthy lymph from the same source, and treated in the same way, undergoes no change whatever.

The activity of the poison used has been in every case proved by inoculation in series of dogs and rabbits. A drop from one of the shaken tubes shows cells filled with sarcinoid masses of coccus and glomerules separated therefrom. In other tubes this is not seen, but agglomerated microbes bacillar in form, which the author believes to be a transitional condition. These germs are easily cultivated in slightly alkaline broth, in gelatine and agar-agar with or without glycerine. The first cultivations should always be made in broth, and be afterwards transferred to solid media. Their liquefying action on the latter is slight, but in some cases it was complete, and may have been owing to some defect in the gelatine itself. In broth, after five days at a temperature of 20° Cent., there were numerous globular or irregular deposits at the bottom of the flask; in some it adhered firmly, like a mycoderma to the glass; but in most a vigorous shake was enough to make the whole fluid opalescent. It would seem that there is some diastatic difference in these growths, but their pathogenic power is alike; this was proved by physiological reactions—by the fatal inoculation of other animals.

He has succeeded in isolating the microbe from the spinal fluid of rabbits dead through the disease communicated from dogs by corneal incision, and in others inoculated in series for the anti-rabic treatment. For instance, amongst twenty tubes filled from one of the latter, two or three have been found to contain the specific microbe. It is very easily stained by gentian-violet and aniline-red—in diluted alcohol especially so.

Pathogenic Action.—One of the incubating flasks is shaken so as to diffuse the germs; then a drop of the fluid is allowed to fall into both eyes of a number of dogs, and a slight scratch is made in each cornea. The little wound heals very quickly without inflaming, although it has been the channel through which the poison has entered, and for eight or ten days the animals seem perfectly well; then they become suddenly ill, and emaciate rapidly; are attacked by general paralysis, and, after two days of feverish hyperthermia, die exhausted. The eyes are throughout free from inflammation. It should be added that some of the same group of dogs become ill, but do not die, and that others may even be quite unaffected.

The nerve-pulp, as well as the cerebro-spinal fluid of the animals which die will produce in indefinite series the typical rabies of the laboratory. But the ordinary tests of cultivation and microscopic examination have failed to show in any case the presence of the microbes in the humors and tissues of the animals killed by keratic inoculation with the artificially-cultivated germs. On the other hand, hypodermic injections in large doses (*de dosis masivas*), twenty to thirty cub. cent., of the sediment in the cultivating flasks have not the slightest effect on the animals so receiving it; no more, indeed, than if one had injected as much pure water. But there has not been time enough to decide if no remote effects follow. It should be observed that all these experiments were made with cultivations between the 4th and 10th in series, so that the effects of the germs contained in the cerebro-spinal fluid itself dropped into the first flask, should be eliminated. And it has been proved by experiment that this fluid has very little poisonous action. Nevertheless, it cannot be denied that this fluid is more active *when injected* than the cultivated microbes from the original tubes. This leads one to believe that the microbe of rabies during its intercellular life may undergo some modification which renders it less fit for subsequent segmentation in cultivating media. Apart from this, the success of the first trials therewith depends upon the presence in sufficient numbers of the phytopherous cells in which the microbes may multiply freely after, probably, the digestion of their envelopes (*despues de la digestiou probable de la envoltura célular*).

"Therefore, this virus, in artificial cultivations, causes the death of dogs after corneal inoculation in minute doses, but is harmless when injected in large doses hypodermically if it has been previously cultivated in rabbits; precisely as happens with the poison from the dog and from the rabbit, as we," says the author, "were the first to discover."

Inoculations *en masse* of the recent nerve-pulp of rabid dogs do not always kill rabbits, nor will the same procedure with that of mad rabbits prove fatal to human beings or to dogs, but it will to other

rabbits. The author believes that the microbe has no power of independent growth or even existence apart from what he terms the phytopherous cells (*células fitóferas*), in which it lives in its primary host; that in the cultivating media it still finds its pabulum in their "digested envelopes;" but, on the other hand, that it is only the free (and dying?) microbes which are endowed with the terrible power of communicating the disease. He gives, too, to the encysted microbes a mysterious antagonistic power over the free, and explains the fatality of the scratched corneal or meningeal infection by a theory that more free microbes can so enter than encysted ones; and the harmlessness of injections *en masse* by the greater number of the benign cells which then accompany them.

[In a future paper he will discuss the prophylactic powers of the microbe.]

Les Inoculations Anti-rhabiques (*Journal d' Hygiène*, Paris).—The chagrin of M. Pasteur at the refusal of the English Government to contribute to the funds of his hospital is natural; but, as the value of the procedure itself is yet doubtful, that of the institution is *à fortiori* more problematical still, and it seems unlikely that its waning prestige will endure as long as the life, much less the fame, of its founder. In a discussion of the question at the Academy of Medicine of Paris in October last, several distinguished men took part, the ideas of M. Pasteur having the support of MM. Grancher, Brouardel, Vulpian, and Charcot, and were opposed by MM. Jules Guérin, Farvel, and Peter. As a *précis* of the speeches, one may say that those of the first group were more remarkable for enthusiasm and declamatory powers than dependence upon statistics and incontrovertible facts. Vulpian vivaciously repeated the phrase which we have heard many times before: "La rage, cette maladie terrible, a enfin trouvé son remède!" And Charcot: "M. Pasteur peut marcher la tête haute, ... sans s'en laisser détourner un seut instant par les clameurs de contradiction, ou par les murmures insidieux du dénigrement!" Quite so; no one can doubt for a moment that M. Pasteur thoroughly and honestly believes in the reality and worth of his system. If it be an illusion, it is still that of one of the most honourable and most modest of scientific men. But declamation is not argument, and the logic of ascertained and recorded facts cannot be swept away, even in a whirlwind of impassioned words.

Jules Guérin replies: "The experiences of M. Pasteur belong to an *artificial* rabies, purely theoretical; and the method itself is but one of theoretical prevention. It is one thing to nip rabies in the bud, another to cure it." M. Peter: "The rabies of the dog is convulsive; communicated to man, it is still convulsive. The rabies of the rabbit is paralytic; inoculated in man, it should be paralysing also, and the paralytic form of hydrophobia, once so rare amongst men, has become common since the anti-rabic inoculation, especially since the use of the intense method, which has replaced the first, which was believed to be so perfect."

"Never have so many people died from hydrophobia as since the introduction of this method, which was to have saved them all. M. Pasteur is not the successor of Jenner; that which *he* inoculated was the natural virus of cow-pox—a disease, it is true, but one which could never be a source of danger. That which M. Pasteur inoculates is the virus of charbon, of erysipelas ever replete with perils. Therefore, it is a strange abuse of language to apply the term *vaccination* to a procedure so hazardous and uncontrollable. It is not necessary to reproduce here the reports of the many fatal cases amongst patients under treatment, and those who had been discharged as cured; nor, on the other hand, to more than refer to the way in which tipsy people, hysteriques and monomaniacs had been subjected to this dangerous treatment for a disease from which they were absolutely free, and how their names swelled so enormously the lists of the 'cured.'" But it is not England alone which has proved incredulous or ungrateful: Florence has not only declined to contribute to this Paris institute, but has refused the advantage of having an Institute Pasteur of her own. In an exhaustive report presented to the municipality by M. le Pr. Michelacci occurs the passage: "One cannot recognise as really demonstrated the unquestionable efficacy of the method, nor the absolute absence of danger."

As a practical commentary, the following incident may be related:—At a recent meeting of the Board of Health of the Seine, M. Pasteur reported that cases of hydrophobia amongst human beings were constantly increasing in Paris. On the 19th of June sixteen persons bitten by mad dogs presented themselves for treatment, eleven being from the city itself. Under these circumstances, he felicitated the Prefect of Police on the measures he had adopted for at once seizing all masterless dogs, and even those with inscribed collars which were not led by a string.[1] But it is somewhat remarkable to find the *savant* who had discovered a certain cure for rabies approving of means for the destruction *per fas et nefas* of all the dogs they could get hold of! At the same meeting the Prefect reported that he had received many letters begging M. Pasteur to describe for their information the earliest symptoms of rabies amongst dogs and cats, and how they should treat them. To the great disappointment of the Board and the public, M. Pasteur, ever faithful to the principles of scientific exactness, replied: "That it was not possible to clearly define the characteristic symptoms of rabies, for even veterinarian experts sometimes made an erroneous diagnosis!' An opinion so reserved, and a *modus agendi* so unexpected, hardly seem of a nature to secure the reception by posterity of this legend of the curability of hydrophobia.

[1] Since the publication of this police order, about 100 dogs a day have been sent to the depôt, where they are asphyxiated in about three minutes, in an iron chamber filled with coal-gas.

VI.—OBSTETRICS AND DISEASES OF WOMEN.

The Value of Hysterorrhaphy as a Primary or Consecutive Operation in Uterine Displacement (*Transactions* of the New York Academy of Medicine).—Dr. C. C. Lee read a paper with this title. The operation, he said, was comparatively a new one, but was not difficult, and it gave relief in a class of cases which had been hitherto entirely intractable. It consisted in sewing a displaced uterus to the anterior abdominal wall. It had first been done as a supplementary operation, after the performance of ovariotomy. Of late it had become a primary operation for the relief of severe cases of prolapsus and retroflexion, and was thus somewhat allied to Alexander's operation in its object. It took the place of the latter, and also gave relief in a class of cases in which the latter was excluded from use. Omitting any allusion to a large number of cases in which he had done the operation as a secondary one to ovariotomy, the speaker then gave an account in detail of six cases in which he had done the primary operation with complete recovery in four of them. All were cases of retroflexion with adhesions, some accompanied by lacerations incidental to childbirth, others by prolapse of the tubes and ovaries, salpingitis, and dysmenorrhœa; others by severe hæmorrhages. All these women had been in a miserable condition from constant suffering, which ordinary measures in the hands of the best physicians had entirely failed to relieve. He had found the operation easier than that for the removal of the appendages. It relieved conditions that were fully as serious as those for which the latter was performed. In no instance had he had a marked rise of temperature following hysterorrhaphy. At the present day the operation might be considered a safe one. In making the sutures he used fine Chinese silk. The suture was passed, not through the vascular fundus of the uterus, but on each side of the fundus, through the proximal ends of the broad ligament, and including the round ligament; and in making the suture through the anterior abdominal peritoneum he included the subperitoneal fat as well. This suture he left in. He much preferred the Chinese silk to silk-worm gut, catgut, or silver wire. In breaking up the adhesions he used only his fingers. The only other radical procedure which gave relief in the same class of cases as hysterorrhaphy did was the method of stretching out the adhesions by massage, as now practised in Europe. As for Alexander's operation, that was of value only in the cases where the uterus was freely movable.

Dr. Howard Kelly, of Philadelphia, thought the operation a valuable addition to our resources, but that it must not be done until all ordinary means had been tried without success. The operation was a safe one. Of ninety-two operations of which we had record, only one had proved fatal, and that had been in his own hands. In this case the intestine became adherent at the point where the suture was passed, and death took place from ileus, in spite of a special operation for the repair of this accident which he had done. He considered the mechanical basis or principle of the operation unexceptionable. The merest thread was sufficient to keep the uterus tilted forward in a position where the pressure of the abdominal respiratory rhythm came upon it from behind and kept it there. He thought there were four conditions in which the operation should be employed: 1. Where Alexander's operation had failed to relieve. 2. Where there were adhesions binding the uterus in retroflexion, unless the operator preferred the method of stretching them by massage, and here he thought an effective pressure could be brought to bear on the uterus from the fingers in the rectum. 3. Where the uterus was prolapsed. 4. When a tumour had been removed; here it was always best to make sure of a restoration of the uterus to a normal position. In operating, the incision should be made as low as possible, and the uterus attached low, to avoid the danger there would otherwise be of the intestine becoming caught between it and the abdominal wall. When the broad ligaments were stretched out into a fan-shaped vascular curtain he lifted them out and reached back so as to get a part that was not vascular, sometimes catching his suture through the ovarian ligament itself, which raised the ovaries on either side at the same time that it drew the uterus forward.

Dr. Paul F. Mundé agreed with Dr. Kelly that it was safe enough to be used without hesitation whenever it seemed indicated. But he also agreed with him that, in case the adhesions which bound the uterus posteriorly were very thick, it was one of the most difficult of operations, and in other cases might on that account be impossible to do. He thought we must in the future learn to recognise the latter class of cases in advance.

Dr. H. J. Boldt discussed the method of dealing with these cases by massage and exercises as practised by Brandt in Sweden. He remarked that great care must be used in making a diagnosis previous to beginning this form of treatment, else great harm might be done, as in case of pyosalpinx being present. In very fat women the treatment could not be carried out for obvious mechanical reasons. Massage of neighbouring parts following treatment relieved the irritation which resulted from the stretching of the adhesions; and in case inflammation threatened, cold was to be applied. In many cases it was possible to get good results only by working during the menstrual period. He thought hysterorrhaphy should be used after the Brandt method had failed, and in those cases where the adhesions were veil-like. He had got good results from temporary transfixion, passing his suture through the whole abdominal wall and through the peritoneum of the fundus. Some uteri were very vascular; if hæmorrhage proved severe he packed in iodoform gauze, but small amounts of blood he left to be absorbed. He thought it important to remember that several thousand women had been cured by Brandt's method, and that without a single accident. It happened quite often that after others had failed to get relief by his method, Brandt himself had succeeded in bringing about a complete recovery.

Dr. H. C. Coe remarked that he had often been disappointed in the results of ovariotomy by finding the pain and hæmorrhage still persisting. It had proved to him that it was necessary to break up any adhesions that were present about the uterus, especially posterior adhesions which held the uterus in retroflexion. Even if hysterorrhaphy did not keep the uterus up permanently in an anterior position, it at least kept it raised until the site of the recent adhesion was healed over, so that if it fell backward again it remained freely movable. In his operations he always had an assistant to raise the uterus on two fingers while he disengaged and sutured it.

Dr. W. Gill Wylie had met with a number of cases where he had produced complete relief by curing an endometritis and subinvolution in the ordinary ways, even where there was a retroflexion with adhesions. On the other hand, he had sometimes opened the abdomen, expecting to do ovariotomy, and had found everything normal except for adhesions between the uterus and surrounding parts. He thought it was considerably easier to shorten the round ligaments inside the abdomen than to do Alexander's operation or hysterorrhaphy, while it accomplished exactly the same end. Then there would be no pocket for intestines to fall into. It was only necessary to scrape raw a section of the round ligament, and then fold and tie it together at that part. When he tied off the broad ligament in doing ovariotomy he simply included a portion of the round ligament, and so raised the uterus to its normal position.

Dr. A. P. Dudley asked, from a purely mechanical standpoint, how it could be expected that two sutures through the peritoneum of the sort that Dr. Lee and Dr. Kelly had described should retain the uterus in place in spite of the movements imparted to it by the pressure of the pelvic diaphragm and of the thoracic diaphragm during labour, defecation, or other exertions, or by the uprise of a full bladder. He thought the organ must very commonly become free in a short time, although the suture might hold it up till the adhesions had had time to heal, the circulation to become re-established, and the uterus to regain its normal weight.

Dr. Lee replied that it was the main and assured result of the operation to make the uterus freely movable, and to relieve the patient of all her distressing symptoms, whether the uterus remained fastened to the anterior abdominal wall or not, and this after all other measures had been tried without the least benefit.

Dr. A. H. Buckmaster, of Brooklyn, spoke of the value of tampooning the vagina for gradually overcoming adhesions.

Dr. Buckmaster and Dr. J. S. Hawley then continued the discussion on electricity in the treatment of extra-uterine pregnancy.

The Spirit of the Societies.

Medical Society of London (Sir William MacCormac in the chair). **Case of Paralysis of the Lower Part of Trapezius.**—Dr. Hughlings Jackson showed a girl, æt. fourteen, who exhibited a curious deformity of the shoulder (wing scapula) due to paralysis of the lower part of the trapezius muscle consequent on injury.—Dr. Beevor added that the serratus also appeared weaker than on the healthy side, but reacted to faradism. He concurred in the diagnosis as to the cause of the displacement.—Dr. Jackson, in reply, said that he was, of course, unable to say absolutely that the paralysis was due to the fall. He mentioned that this paralysis had been described by Duchenne in his "Physiology of Movement," twenty years ago, but that hitherto he had not met with such a case.

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Ophthalmological Society of the United Kingdom (J. W. Hulke, president). **Suppurating Hydatid Cyst of the Orbit.**—This case was communicated by Dr. Rockliffe. The patient, a labourer, æt. thirty-three, had first noticed an affection of the sight of the left eye in 1882. He had several attacks of inflammation in it, and the vision gradually deteriorated till April, 1887. He was quite blind with it. There was then marked protrusion, some ptosis, and the action of all the ocular muscles except the external rectus was very limited. Nothing definite was made out as to the condition of the orbit. Eighteen months later, having suffered intensely, the patient consented to an operation. An exploratory puncture with a scalpel having given no result, the orbit was more freely opened up, and the eye being removed, a suppurating hydatid cyst was found at the apex of the orbit. The rarity of the affection and the difficulty of diagnosis were briefly alluded to.—Mr. Brailey asked if there were any hydatids in other parts of the body. He thought that in Dr. Rockliffe's case the hydatid had developed in the substance of one of the ocular muscles.—The President said he had only seen three or four cases, and he thought an accurate diagnosis could not be made. In one of these cases there had been suppuration. He did not see how suppuration could be caused by rupture of a hydatid cyst.—Dr. Rockliffe, in reply, said the patient attributed the suppuration to a blow with a piece of iron. No hydatids could be found elsewhere. He thought the cyst had developed behind the eye, and had not been attached to the muscles, for the patient had free movement in every direction.

A Peculiar Form of Degeneration of Lens.—Dr. Doyne gave a brief account of a case where there was a difference in refraction of eleven dioptres between the periphery and the centre of the lens. The patient was seventy years of age, and the condition had been developing for some years.—Mr. Hartridge asked if the condition could not have been congenital.—Dr. Bremner thought that many cases were ascribed to conical cornea and astigmatism, which were really one, to irregularities in the lens.—Dr. Doyne said he did not think this case was congenital.

A Case of Recurrent Transient Blindness.—Dr. Doyne read the notes of this case. The patient had been invalided home from India after malarial fever; before his return he had a sudden attack of blindness, which completely cleared off in five minutes. Another attack came soon after his arrival in England, which did not quite pass away for more than three weeks. When he first came under notice, three days after the attack, the upper field of vision was restored. There was a dense white fog in the upper half of the fundus, completely veiling the choriod, but in which the retinal vessels stood out brilliantly. The cause of the attack seemed doubtful.

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Royal Academy of Medicine in Ireland. *Surgical Section* (Edward Hamilton, president). **Peculiar Dislocation of Thumb.**—A paper was read by Mr. Dallas Pratt on lateral luxation of the ungual phalanx of the thumb, the dislocation being complete, and the direction of it upwards. He believed that the case was so rare as to be almost unique. The patient, a man about forty, slipped in the street, and putting out his hand to save himself came down on the point of his thumb. The injury was very difficult to reduce, the ordinary methods—clove hitch, Hey's knot, Levi's apparatus, etc.—having failed. Finally, by bending the joint, so as to increase the deformity and bring the phalanx at right angles to the proximal ones, and then making traction in the axis of the thumb, the bone went back into its normal position. There was no fracture, and the dislocation had not recurred a year after reduction.—Some remarks were made by Mr. Wheeler and the President, to which Mr. Pratt replied.

Cholecystotomy.—Mr. Kendal Franks read a paper on a case in which he had operated on September 10th, 1887, for the removal of gall stones. The patient, a lady, fifty-two years of age, had suffered from colic, jaundice, and severe feverish attacks, from December, 1886. After her admittance into hospital, the attacks became of almost daily occurrence. The diagnosis was rendered difficult, as she had a tumour occupying the right side from the costal arch to the crest of the ilium. A small globular tumour was felt between this and the umbilicus during

the attacks of pain. The patient was in a very exhausted condition when the operation was performed. The tumour on the right side proved to be an abnormally enlarged right lobe of the liver. The gall bladder contained four calculi, which were removed—no tumour could be found—the obstruction being due to a stricture of the common gall-duct. The woman made a good recovery.—Mr. Barton said he had a similar case a year ago to that of Mr. Franks. The patient was an elderly woman who had suffered from symptoms of gall stone for many years. She was very thin, and her nutrition had suffered from long continual disease. She was heavily jaundiced, and the abdomen on palpation showed a well-marked tumour in the region of the gall-bladder. The operation was perpendicular to the costal cartilages, about four inches in length, and the peritoneum was readily reached and opened. A number of gall stones were found in the gall-bladder, some being impacted in the common duct. The anterior wall of the bladder was stitched to the edge of the incision. The lower part—close to the gall-bladder—having been opened, a large gush of greenish-yellow bile followed, and he removed with his finger three large stones. The great difficulty was to reach the stones impacted in the duct, which constituted the cause of the obstruction. Squeezing or pressing was out of the question, and the only course was to reach the stone or stones with the finger or the forceps. Once the stone had passed through the duct, it was exceedingly difficult to reach or press it in any way so as to make it slip backwards. After manipulation he extracted another stone, and concluded that his operation had been successful; but it was not, although the wound was antiseptically dressed, and there was an excellent recovery. There was no peritonitis, except in glueing the edges together, and there was no bad result. At the same time, there was no relief to the jaundice, and the obstruction remained. The dressings were saturated with bile. She expressed herself very much relieved, and her appetite increased; but being an elderly woman she never gained strength from the low state of nutrition into which she had fallen. In the course of three months she died.

Section of Medicine (Lombe Athill, M.D., president). **Mixed Typhus and Enteric Fever.**—Dr. C. J. Nixon read a paper on a case of mixed typhus and enteric fever, and exhibited the *post-mortem* appearances of Peyer's patches.—Mr. Molony asked if there was a case of typhus in the wards, or if there was any evidence of the existence of typhus in the house from whence the patient came.—Dr. J. W. Moore said he saw, on October 17th, in consultation, an officer supposed to be at the sixth or seventh day of typhoid. The symptoms of typhoid present were tympanitis and diarrhœa, but the case was more like typhus or acute pneumonia. Next morning the patient was covered with maculated eruption, and whether he had been in typhoid previously or not it was evident he was then about the sixth day of typhus. Whatever other fever he had, there was no doubt he had maculated typhus, although the spots gradually faded, and were hardly perceptible at the time of death. There was no opportunity of making a *post-mortem* examination.—Mr. Delahoyde had had two cases in which typhoid and typhus co-existed in the same individual, and both terminated fatally.—Mr. H. G. Croly mentioned the case of a young gentleman who had had symptoms of typhoid, but afterwards the fever ran the ordinary course of typhus.

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Medico-Chirurgical Society of Edinburgh (John Cheine, M.D., F.R.C.S.E., vice-president, in the chair). **The Treatment of Diphtheria in Children by Antiseptic Steam.**—Dr. Craig read a paper in the place of Dr. F. Wyld Pairman Auckland, in which, after discussing several of the accepted methods of treatment, the author advocates strongly the use of steam. The child should live in an atmosphere of steam. This was advantageously combined with sulphurous acid through the burning of sulphur in the room. Since the author had adopted the method he had not lost a single case. Several speakers gave corroborative evidence as to the value of the method. It was generally admitted, however, that the system was not new, as with many practitioners it had been for years routine practice.

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Royal Medical and Chirurgical Society (Sir H. Sieveking, M.D., president). **Eighty Cases of Chorea. Antecedents, Family History, State of the Heart, and Subsequent History.**—The above paper was read by Dr. P. Herringham. We give a summary. *Antecedents:* Acute rheumatism preceded the attack in nineteen cases, immediately in four; at some intervals in fifteen. It accompanied the chorea in two cases. Pains in the joints accompanied the chorea in two cases, and preceded it in fifteen. The total number of cases in which rheumatism could be traced was thirty-seven. Injury, shock, or violent bursts of emotion in six cases. The interval was never greater than two days. Hard mental work or worry was found in twenty cases. In twenty-five cases none of them could be traced, and of these fourteen were first attacked. Nearly all the patients were delicate; headache and indigestion were the most common complaints. *Family History* (calculated from parents, brothers and sisters only): Rheumatic fever had occurred in twenty-five out of seventy-five families. Seventeen of which belonged to thirty-four patients of the rheumatic classes, and the remaining eight to forty-one in whom there was no history of rheumatism. Chorea had occurred in twelve families, nine of which were rheumatic. *State of the Heart Throughout:* Natural in ten, uncertain endocarditis in twenty-five, and certainly diseased in twenty. Signs of disease developed during observation in eleven cases, and signs which were at first present vanished in four during observation. The following conclusions were drawn:—1. That a large number of choreic patients were liable to rheumatism. 2. That choreic patients were nearly always of a delicate constitution. 3. That chorea was sometimes directly caused by emotions. 4. That chorea might cause permanent heart disease. 5. That it also gave rise to signs of heart disease which were not permanent.

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British Gynæcological Society (Arthur Edis, M.D., president). **Pyosalpinx.**—Mr. Lawson Tait showed the appendages which he had removed from a lady æt. thirty-nine. She had married at the age of seventeen, and had two children within twenty months of her marriage. Soon after her confinement she contracted gonorrhœa from her husband, and she had never known what it was to be well since. She had led a life of simple misery for several years. Then she married again, but never became pregnant by her second husband, so that ever since she has been nineteen or twenty she has been absolutely sterile. She had double pyosalpinx of old standing, and it was very difficult to say which was tube and which was ovary. There were abscesses in both ovaries, and if he had attempted to tap them from the vagina he would have been obliged to tap several cavities. The patient was now practically cured.

Removal of Uterine Appendages.—Dr. Savage exhibited appendages, which he had removed from two women, aged about twenty. In one case pus was found in one ovary and one tube; in the other case small cysts were found in both ovaries, the right one being the size of a pigeon's egg. In both cases there had been pain for a long period, and they had been under treatment two or three years previously without benefit.—Dr. Routh said he had seen many cases in which an abscess having formed in the ovary, the contents had become indurated from absorption of its liquid portions, and there had been no further annoyance. He thought that in many cases it would be sufficient to puncture through the vagina and inject iodine, etc.—Mr. Lawson Tait said that a man who would neglect his obvious duty in such a case for the sake of a hypothetical future baby would be neither more or less than a criminal. He denied that tapping ever effected a cure. Even a simple parovarian cyst would refill and require removal, and an abscess of the least, which was easily accessible, could not be cured by such means.

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Glasgow Southern Medical Society, Thursday, January 10th (John Glaister, M.D., in the chair). **Radical Cure of Hernia by Dr. Macewen's Method.**—Dr. S. G. Campbell exhibited and described two cases in which this operation had been performed by Professor James Dunlop in the Royal Infirmary. The one patient was a boy, with congenital inguinal hernia; the other, a man of middle age, with a large scrotal hernia. The former had undergone operation by another method, which failed owing to whooping-cough, the gold wire requiring to be removed. On that account the cicatrix in the groin was longer in extent than usual.

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Glasgow University Societies, Friday, January 11th. **Conjoint Discussion on Cremation.**—The Dialectic, Medico-Chirurgical, and Theological Societies met together to discuss the subject of cremation. Mr. Farquharson, treasurer of the Medico-Chirurgical, declared in favour of cremation, and from the medical point of view not only made out his case in favour of the new system, but incidentally pointed out the increasing dangers attendant upon the present burial system.—A very complete and able reply was then tendered by Mr. F. G. M'Killop, a member of the Dialectic, in which he made light of some of the alarmist opinions of the doctors, and laid special stress upon the case with which justice might be baulked where murder had been committed by poisoning.—The doubtful factor in the minds of many lay with the Theological Society, but their fears or hopes were set at rest when a member of the society gave cremation his support in an effective little speech. The discussion throughout was lively, and at times humorous to the verge of ridiculousness. At the close there voted for the affirmative, sixty-three; and for the negative, seven.

Glasgow Medico-Chirurgical Society, Friday, January 18th (Professor McCall Anderson, M.D., in the chair).—**The Pulmonary Vesicular Sound.**—Dr. D. C. McVail explained his theory that this sound was produced by "flutter resonance" in the pulmonary vesicles. Air passing over a sharp edge in entering a cavity was thrown into flutters. As in an organ pipe one of these flutters would assume the dignity of a musical sound. So air entering into infundibula of the lung, struck against the edges formed by the septa of the vesicles, and was thrown into flutter. The theory of "fluid vein" would not hold as applied to the production of the sound in the pulmonary vesicle, for that theory required two conditions which were not both present in the lung—namely, the entrance of a stream of air, and resistance to that stream. The latter condition was not present in the air vesicles, because they yielded before the current of the air, and underwent enlargement. There was a small period of minus tension, for the air was drawn in by the walls of the vesicles making way. The inspiratory part of the sound he held to be vesicular and not due to "fluid vein," but to "flutter resonance." The respiratory sound in incipient phthisis was not vesicular in its origin, but was produced in the bronchial tubes. A tubular murmur was heard in pneumonia and the vesicular sound was absent, because the pulmonary air vesicles were filled. The lung tissues was thereby made a better conductor of sound, and so the tubular sound was obtained. In incipient phthisis the pulmonary sound assumed a wavy character, the wave being synchronous with the heart beat. Afterwards the respiration became "cogwheeled" in character, and finally the heart beat itself was heard in the lung. Dr. McVail held that intravascular murmurs were wholly due to "fluid vein;" but that theory could not explain the pulmonary sound in the air vesicles.—Dr. George S. Middleton did not think that sound entering the air vesicles could produce an audible sound, or a musical note. The septa of the air vesicles did not form such definite edges as shown by Dr. McVail. He considered that wavy murmurs were sometimes caused by the heart's action, but not always.—Drs. Dunn, Wallace Anderson, and the Chairman made some furthers remarks, and Dr. McVail in his reply contended for his theory of the origin of the pulmonary vesicular murmur in the vesicles themselves as against the old theory of its origin in the trachea. If a portion of the lung did not expand, the entering air produced "fluid vein" if the resistance was sufficient. The "resonance flutter" swallowed up the "fluid vein," but sometimes the latter contributed to the production of the vesicular murmur.

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Liverpool Medical Institution, December 6th (Dr. Carter, president, in the chair).—Dr. Karl Grossman read a paper on **Hypnotism.**—He said that he was first led to investigate the subject by the experience of a friend, in whose judgment he had firm faith. He then went to Paris and attended M. Charcot's demonstrations at the Salpétrière. M. Charcot distinguishes three stages of the hypnotic state. 1. That of lethargy, produced by fixing the eyes with a bright point, or by compression of the eyelids. 2. That of catalepsy, produced by lifting the eyelids of the subject while in the first stage; or directly by a sudden shock to the sensory nerves, as by a flash of light. In this stage every muscle retains the position in which it is placed, like a painter's lay figure. 3. That of somnambulism is produced by gently rubbing the vertex in either of the foregoing stages. Charcot also states that some people have certain zones, the stimulation of which will produce lethargy. Dr. Grossman saw all these different stages demonstrated at the Salpétrière, but was not able to get any explanation of them. From Paris he went to Nancy, when he saw Drs. Liébault and Bernheim. They differed from M. Charcot in their method of procuring sleep; they doing so by suggestion only. Dr. Liébault believes that the hypnotic sleep differs from ordinary sleep, in that there exists a relation between the sleeper and the operator; whereas in ordinary sleep the sleeper is wrapped up in himself. Liébault suggested sleep by placing the patient in a comfortable chair, and talking quietly to him. The Nancy School differs from that of Charcot in that they do not recognise the three stages of lethargy, catalepsy, and somnambulism, but produce any of these conditions directly by suggestion. Bernheim demonstrated that the suggested effect existed only in the idea of the subject. For example, it was suggested that he could not see a certain thing in the room; he then acted just as if he were unable to see the object, although it was plainly visible to others. Dr. Grossman also spoke of remarkable vaso-motor effects produced by suggestion, such as a blister, when a postage stamp was applied, and the patient was told that vesication would take place. Dr. Grossman thought that the principal field for hypnotism would be among nervous disorders; although not necessarily among hysterical patients. After the paper Dr. Grossman demonstrated many of the above facts on two subjects whom he hypnotised by suggestion.

Clinical Society of Manchester, January 10th, 1889 (Dr. Simpson in the chair). **Compound Dislocation of the Ankle.**—Dr. J. Eames showed a patient who had recovered from compound dislocation of the ankle with perfect movement, and attributed the excellent result to the thorough manner in which the joint at the time of injury had been irrigated with corrosive sublimate solution, 1 in 1,000. A drainage-tube and antiseptic dressings were used. The pulse and temperature never exceeded 100. In three months the patient was able to walk five or six miles, and was free from lameness.

Enlarged Spleen with Anæmia.—Dr. Owen showed a case of enlarged spleen with anæmia in a child which had been under observation for above three years. The child, a boy, was five years of age when he was first brought to the hospital. Shortly after the first visit paralysis of the soft palate occurred, with nasal utterence and rejection of liquid food through the nose. The tonsils were enlarged, and also the upper cervical glands. The whole of the symptoms were considered to be the result of an attack of diphtheria. The spleen continued to enlarge, until it reached the level of the umbilicus. Slight dilatation of the left ventricle of the heart occurred during the progress of the case, and a systolic apex murmur had been noted, with marked accentuation of the pulmonary second sound. This murmur was audible only in the recumbent posture, a peculiarity which Dr. Owen had frequently observed in conditions of anæmia and debility. He attributed it to a relative incompetence of the mitral valve, which the lessened energy of contraction of the ventricle in this posture rendered apparent in a weakened heart. The condition of splenic anæmia, he thought, was not infrequent in children, and that it was for the most part due to disturbance of the blood-forming process brought about by a great variety of diseases. In this case great improvement had taken place under the prolonged administration of iron and arsenic.

Hydronephrotic Kidney.—Mr. Stanmore Bishop showed a patient from whom he had removed a hydronephrotic kidney twelve months since. The wound healed rapidly with the exception of a small sinus leading down to the ligatures, which were of Chinese twist. After waiting six months Mr. Bishop cut down upon the urethral ligature and removed it. It was found unchanged. The sinus still persisted, but last month it finally closed. The urine now passed was of sp. gr. 1,022, and contained no albumen, casts, or crystals, and was of normal quantity. No signs of renal insufficiency had shown themselves at any time. The case was originally reported in the *Lancet*, May, 1888.

Hydatid Tumour of the Liver.—Dr. Railton showed a girl, æt. fourteen, with an hydatid tumour the size of a cricket ball, placed in the middle line in the epigastrium. There was no thrill obtainable. It had been observed for the last four or five months, but had given rise to no pain or other disturbance. Dr. Railton had drawn out with a small subcutaneous syringe, a small quantity of the hydatid fluid a fortnight previously, and the tumour had already apparently began to shrink.

Disseminated Sclerosis.—Dr. Railton showed a little girl, æt. nine, suffering from disseminated sclerosis which had an usual mode of onset. She was born naturally, cut her teeth in good time, and had never suffered from convulsions. She did not walk until three years old, and it was then observed that her gait was as awkward as at present, somewhat spastic, the knees and toes turned inwards, and a slight overlopping of the legs during progression. The hands had the characteristic large tremor, greatly increased upon attempting to do anything requiring the least exactitude, such as the conveying of a glass of water to the lips. The legs when hanging down without support were perpetually in motion, with jerkings very like the irregular movements of chorea. All movements ceased entirely on the limbs being allowed to rest. Although weak and uncertain upon her legs, she was able to stand with her eyes shut. A peculiar expression of face perceptible, and a tendency to cry and to laugh unreasonably had been noticed in the wards. Her speech was syllabic, drawling, monotonous, and weak, dying at times at the end of a word. The knee jerk was present but restrained by spasm. There was no mystagmus nor vertigo: sensation appeared perfect and the faradic reactions were everywhere normal. The muscular sense seemed to be slightly impaired. The bladder and rectum were unaffected. No family history of neurotic disease elicited, and there were five other perfectly healthy children of the same parents. It was evident that the etiology of such a case was wrapped in impenetrable obscurity.

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Pathological Society of Manchester, Wednesday, January 16th, 1889 (A. H. Young, M.B., president, in the chair).—**Thrombus of the Retinal Veins.**—Dr. Mules showed drawings of primary retinal phlebitis, where clots were seen in the vessels, entirely blocking up some of the larger veins.

Enlarged Spleen Removed by Operation.—Mr. WRIGHT and Mr. THORBURN showed the specimen, with sections, of a spleen removed from a man of thirty-five for hypertrophy, with severe accompanying pain. The details of the case have been already published (*Medical Chronicle*, December, 1888). The sections showed slight thickening of the capsule, a condition frequently seen in hypertrophy, the thickening being more marked when the organ lay in contact with the chest wall. There was slight—but only slight—increase in the fibrous stroma. The arteries had mostly thickened walls, some being almost obliterated by endarteritis. The veins were dilated. The splenic pulp itself was practically normal, although in excessive quantity. The malpighian bodies were well marked, and there were a few cells with double nuclei, and still fewer giant cells. Practically, therefore, this was a case of simple hypertrophy arising without any obvious cause. This affection is but briefly referred to in most of the works on general medicine and pathology, but the brightest record of collected surgical cases would appear to show that it is not very uncommon.

Intussusception of the Small Intestine.—Dr. YATES showed a specimen of the intussusception of the jejunum which was taken from a child two years old, who was admitted to the wards of the Bolton Infirmary, under the care of Dr. Mallett, on November 9th, 1888, suffering from extensive burns of the third degree over both arms and abdomen. The child progressed favourably until November 24th, all the sloughs having come away, leaving healthy granulating surfaces, when persistent vomiting set in. There was slight tenderness in the epigastrium on deep palpation, but no tumour could be detected. The vomiting continued, and the child gradually got weaker, dying on the 27th. Duodenal ulcer was diagnosed at the time, and was accordingly treated. At the *post-mortem* the intussusception was found, the duodenum being perfectly healthy, as also were the other viscera. There was slight congestion of the intussuscepted portion of the gut, but the obstruction was not complete, allowing the passage of a goose quill. The case was one of interest, inasmuch as the symptoms came on during the third week of an extensive burn, and simulated those of duodenal ulcer.

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CLINICAL SOCIETY OF LONDON (W. H. Broadbent, M.D., F.R.C.P., president). **Sequel of a Case of Epithelioma of the Vocal Cords, for which Partial Excision of the Larynx was Performed.**—Mr. Butlin read particulars of this case. Recurrence of the growth took place about nine or ten months after the operation of partial excision. Tracheotomy was performed exactly one year after the first operation. The patient survived the operation of tracheotomy one year and two months, when he died slowly of exhaustion.

Disease of the Larynx.—Mr. BUTLIN also sends notes of the cases. In pursuance of an opinion expressed by him in a previous paper, that it is necessary to remove the cartilaginous, or bony framework of the larynx in certain case of intrinsic carcinoma of the larynx which are suitable for operation, two cases were reported. He also gave another instance of a case in which he performed an exploratory thyrotomy in a man advanced in years, and found the disease too extensive for removal; he closed the wound, and the man recovered and left the hospital, wearing a tracheotomy tube.

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BRADFORD MEDICO-CHIRURGICAL SOCIETY (H. C. Major, M.D., president). **Arrested Growth of Radius.**—Mr. HORROCKS read a paper for Mr. J. Appleyard on a case of arrested growth of lower epiphysis of radius (child shown) after a fall of eleven months previously. The lower epiphysis of the vena and radius were connected with the bone above by fibroid tissue.

Laparotomy for Ovaritis.—Dr. A. RABAGLIATI read notes of two cases of laparotomy for ovaritis. One of the cases, the first fatal case of laparotomy for oöphorectomy under Dr. Rabagliati's hands, died on the fifth day. The ovaries had been partly adherent owing to inflammatory changes subsequent to a miscarriage, and there was constriction of a piece of small intestine by an adhesive band. The second patient recovered, and was relieved. In both cases hydrastis canadensis had been tried previously, without any result.—In the discussion, Mr. VAUGHAN dwelt on the good effects he had seen from the use of nitroglycerine in ovarian dysmenorrhœa.

Chrysarobin in Psoriasis.—Dr. MAJOR read notes on the use of chrysarobin in psoriasis by the Auspitz method (painting the eruption with chrysarobin dissolved in liquid guttapercha), commenting on the cleanness and efficacy of the method.

OBSTETRICAL SOCIETY OF PHILADELPHIA. **Pyosalpinx.**—Dr. L. J. HAMMOND reported a case of pyosalpinx. N. J——, æt. twenty-two years. Had one child three years ago. Since that time she has not felt well, having frequent attacks of pain in the pelvic region, confining her to bed for weeks at a time. About nine months ago she had a hæmorrhage from the uterus lasting three weeks, followed by a purulent discharge with severe pain and great tenderness of the abdomen, especially low down, necessitating her remaining in bed two weeks. After this time she resumed her occupation, that of a laundress, until four weeks ago, when the pain became so intense she was again obliged to go to bed, where she remained one week without attendance. At this time I found her with a temperature of 100°, pulse of 120, abdomen tympanitic and so very tender she could not bear the weight of my hand upon it, together with menorrhagia. Digital examination was deferred until the next day, owing to the great distention of the bowels with fæces, which naturally increased the pain. Upon examination per vagina, I found a uterus very much enlarged, and bound down firmly posteriorly, together with a large boggy mass on the right side, which was very sensitive to touch. An immediate operation was advised, but was delayed, owing to the absence of relations, until October 18th, when with the assistance of Dr. J. M. Baldy, the abdominal cavity was opened, and a large abscess with pyosalpinx was removed from the right side, with great difficulty, owing to extensive adhesions. Several small pus pockets were ruptured during the removal, and about an ounce of pus was discharged. The left ovary was not removed, it being apparently healthy. After thorough irrigation a glass drainage-tube was inserted, and was replaced on the fourth day by a rubber one, which removed in twenty-six hours. It is to-day just two weeks since the operation, and the patient is well. At no time did the temperature rise above 99½.

Dr. J. M. BALDY said that it had been stated in the society by a member that he had never seen pus in a tube primarily. The specimen presented was interesting in that connection, as there has been pus in the tube as a primary condition. There was not pus present then as the specimen had been cut open, and had been for a long time in alcohol. There were two sacs in the ovary, one contained pus, and the other a blood clot as large as a walnut.

Dr. PRICE, in answer to a question, whether the matter contained in these abscesses was really pus or not, said there could be no question but that it was pus. He was quite sure that it had been examined under the microscope.

Dr. B. F. BAER thought that he was the culprit referred to by Dr. Baldy. In the discussion of this subject before the Society, last winter, he was reported as having made the above statement, but he had been misunderstood. What he really did say was, that in his experience primary pyosalpnix was a rare disease; that in the uterine appendages which he had removed, the condition was an inflammatory one, involving the tubes, ovaries and pelvic peritoneum, which had resulted in glueing or matting together the organs, but that he had failed to find pus contained in the tubes and nowhere else; that in the pus cases with which he met, there was a condition of abscess in which it was difficult to tell whether the disease had originated in the tube, in the peritoneum or in the cellular tissue, so extensive was the distruction of the tissues and organs in these cases. It would be a very sweeping statement to say that primary pyosalpinx never occurred, and he did not wish to be misunderstood as making it. His experience during the past year confirms the views which he then expressed.

Dr. HAMMOND said there was no question about there being pus in this tube. The tube was larger than his thumb, and thoroughly distended with pus.

Double Intraligamentary Cysts.—Dr. WM. GOODELL gave the the history of a case of double intraligamentary cysts. The woman, æt. 30 years, had been infected with syphilis from which she had suffered with constitutional symptoms. Two tumours had been discovered a year ago. Her health had failed rapidly and œdema of the upper and lower extremities were present. The womb was so closely adherent to the tumours and they were so immovable, that a diagnosis of one multilocular intraligamentary cyst was made.

Dr. GOODELL also shewed the *left ovary* of a young girl, 22 years old, which he had removed, and which had *two pus cavities* in it. The girl in this case was a virgin, and he felt very confident that gonorrhœal infection could be excluded. Owing to a constant oozing of blood the drainage tube was kept in for eleven days, a rubber one being substituted for the glass one at the end of the first week. Not any complications have retarded her convalescence.

Intraligamentous Cyst.—Dr. B. C. HIRST showed an intraligamentous cyst. This specimen was recently removed by an operation

performed by Dr. T. H. Bradford, at which I had the pleasure of assisting. The tumour sprang from the right broad ligament and was attached deep down in the pelvis. Its blood-vessels were enormous. It was covered by that curious muscular-looking capsule which makes these tumours resemble an enlarged uterus. There was furious hæmorrhage at the lower attachment when an attempt was made to ligate the pedicle. This was easily controlled by a long pair of catch forceps passed in the dark. The entire tumour was removed, and the stump cauterized. The operation lasted three hours, and the woman almost died on the table. She recovered from the immediate effects of the operation, but died three days later. The mass consists of a papillary growth internally, and a capsule which shows features referred to by Dr. Goodell in a meeting of the society last December, and that is the seeming rottenness of the tumour wall in spots, which makes it exceedingly difficult to remove these growths without tearing them and allowing some of their contents to escape into the peritoneal cavity. This happened in the present case. Had the woman lived it is probable that the peritoneal surface would have been infected by this papillomatous matter.

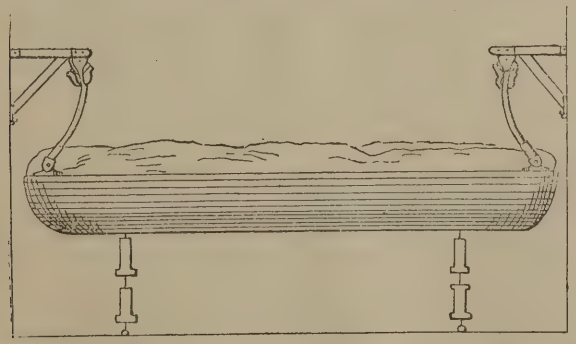
Dr. R. P. Harris gave the case of the late Dr. Emeline Cleveland, who had become infected from an ovariotomy, and had a syphilitic sore developed on her wrist, which ultimately was the cause of her death.

Dr. Joseph Price said the case reported by Dr. Goodell illustrated beautifully the primary and the secondary value of the tube; the signal of hæmorrhage and the cure of the abscess which formed later. The woman would have perished from the hæmorrhage or the abscess had the tube not been used. In regard to the virulence of living pus, he might say that he had twice been poisoned in abdominal work. Virchow had called attention, long since, to the virulence of living pus. He differed entirely from Dr. Baer as regarded the nature of the cyst which he had presented. It was clearly a parovarian cyst. It belonged to that class of tumours to which we applied the minor methods of treatment without knowing exactly what the tumour was. In this case you may strip off the capsule and still have a cyst. This could have been done more readily if the specimen were a recent one. The other day, he removed an enormous parovarian cyst, and in a few minutes was able to convert it into two cysts. Such tumours are always parovarian and the enucleation is easy.

Surgical Aids and Appliances.

117.—SWINGING BERTH FOR SHIPS.

Mr. Godwin, of Lynn, Massachusetts, U.S.A., has devised a new form of berths for ships, to prevent sea sickness. The real invention is a sort of swing for supporting a ship's berth, and maintaining it in a level position, however much the vessel may pitch or roll. It is an adaptation of the rotary movement of the ball and socket joint to a sort of wooden hammock. Brackets are screwed into the walls of the cabin, provided at their outwardly projecting ends with lugs, to which are secured the base piece of a ball-and-socket joint. A spindle, passing through the ball, supports a beam provided in the centre with an aperture into which the lower end of the joint passes. The berth is suspended to these beams at all four corners, and works easily and noiselessly. The invention has also been tested with great success on



one of the Allan Line steamers from Liverpool to America, when even the "roaring forties" were found to have no unpleasant effect upon its fortunate occupant. It has also been tried on some of the vessels of the London, Chatham, and Dover Railway between Calais and Dover, with equal success. It will doubtless be quickly introduced into other ships, especially of those great lines whose principal aim in life seems to be to seek opportunities for making a sea voyage a matter of luxury, and whose ships every year bring over and carry back so many thousands of cousins from across the herring-pond. The berth is on view at the offices of Messrs. F. Prince and Co., 31, Craven-street, Strand, London.

Medical Miscellanea.

The subject of our next illustration will be Dr. Robert Barnes.

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Dr. John R. Fitzgerald, Appelby Hitchen, Herts., has been awarded a Government grant for successful vaccination.

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Messrs. Cassell & Co. are the publishers of Letts and Co.'s medical ledger and medical diaries.

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Cassells' "Year Book of Treatment" becomes more valuable each year. The volume for 1889 is the best yet issued.

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The executive Committee of the General Medical Council will meet on Monday, February 25th.

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The Mayor of Hastings is asking for the co-operation of the residents and tradesmen in connection with the Health Congress, over which Dr. Richardson will preside. It will be held in May.

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Dr. Joseph Wiglesworth has been appointed Superintendent of the Rainhill Asylum, to which he has for some years been Assistant Medical Officer.

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The next triennial award of the Astley Cooper Prize (£300) will be made in 1892. The subject set is "The Influence of Micro-organisms in Inflammation.

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Mr. Whitworth, Public Vaccinator of the St. Agnes District of the Truro Union, has been awarded the Government Grant for efficient vaccination.

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Mr. John Buckenham, L.R.C.P. Edin., M.R.C.S. Eng., Public Vaccinator to the borough of Cambridge, has been again awarded the Government Grant for successful vaccination.

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Dr. M. Cursham Corner, of Mile End, has been presented with a valuable bag of obstetric instruments by members of the committee of the Lying-in Home, Shadwell, in recognition of services rendered to the patients of that home.

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The candidates for certificates at a recent examination, held in connection with the S. John Ambulance Association, in Cardiff, included thirty men employed at the Bute Docks, sixteen being policemen. The class had been prepared by Dr. Wallace. Dr. Thomas, Bridgend, complimented the men upon the proficiency shown.

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A case of poisoning by false teeth is reported from New Haven. The sufferer recently bought a set of false teeth with a rubber plate. He had worn them but a short time, when his tongue began to swell. His eyelids also swelled up so that he was blind for a time; other parts of his body became similarly affected.

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The medical classes in Owen's College for the Lent term were re-opened on January 9th. Dr. Henry Simpson, who has been connected with the Royal Infirmary of Manchester for many years as Physician, has resigned that office. Dr. Graham Steel, Assistant Physician, receives the appointment of full Physician.

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The Royal Academy of Sciences, Turin, announces that the new term for the seventh Bressa Prize has begun. The prize is of the value of 12,000 Italian lire, will be given to the scientific author or inventor (whatever his nationality) who during the years 1887 and 1890, shall have made the most important and useful discovery, or published the most valuable work on physical and experimental science, natural history, mathematics, chemistry, physiology, or pathology, as well as geology, history, geography and statistics. The term will close at the end of December, 1890.

J. Walker Downie, M.B., F.F.P. and S.G., has been appointed Surgeon to the Department for Diseases of Throat and Nose, in the Glasgow Western Infirmary, *vice* John Alexander, M.D., resigned.

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Medical men who smoke will be glad to know of a good pipe. It is the Fumo-per-purgans of Bennett. The name is not a happy one, but that does not take away from the value of a pipe which smokes cool, and is permanently clean.

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Pepsin has been recommend as a surgical dressing by Dr. Henry B. Douglas, New York, either dusted or applied in ointment. In ulcerations covered with a slough, or having a membranous base, it leaves a healthy granulating surface.

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Two medical men have recently been sentenced in France to four years' imprisonment, 1,000 francs compensation, and five years of interdiction of cure and political rights for making a medico-legal report imputing criminal abortion on insufficient data. The report appears to have been made in good faith, but they relied upon statements obtained outside the *post-mortem* room, and their medico-legal report was influenced by this information. The punishment inflicted is of course severe, and shows how strict French laws are. We believe there can be no doubt that the woman did die of abortion, but there was no scientific proof from the *post-mortem* that the abortion was caused artificially.

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"Do you know there are eleven and a half tons of postage stamps sold at the New York post office every year?" asked a manufacturing chemist of a reporter the other morning. "Now, guess how many tons of pills are made in this country every year." "What have postage stamps to do with pills?" said the reporter. "Nothing whatever, save that each is useful in its way. I only cited the post office vend to give you an idea of the great weight of small things when considered in bulk. Give it up? Well, as near as can be figured they will amount to over fifty-two tons a year. A ton a week is a fair estimate. In England alone there are two billions consumed every year; that, reduced to tons, would make about forty. How many are used in other countries it would be hard to say, but the total would not come far from 450 tons. Say, 500 tons are used a year by the entire world. The habit of pill-taking is ancient. It is the most convenient form of taking medicine, and is the most popular. Formerly, they were made by the hand; now they are produced by machinery. There are a few manufacturers who make a million pills a week." Messrs. John Richardson and Co. turned out last week 6,213 gross, or 894,672 pills.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, Friar Lane, Leicester.

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16th of the month.

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

SACCHARIN.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

DEAR SIR,—We notice in the January number a leaderette headed the "Saccharin Controversy," in which the imputation of motive is justly deprecated, and the assertion made that "the objection to this agent in France arose from a desire to protect native industries—a conclusion hardly warranted by the facts." Now as a matter of common knowledge, the objection to saccharin in France *did* arise from the desire you mention, and we are going to try to prove to you out of the *ipsissima verba* of the chief actors in this "Saccharin Controversy" that this *was* the case, and that such a conclusion is perfectly justifiable. No one can more thoroughly deprecate the imputation of interested motives than we ourselves do; and in the pamphlet which we recently published, entitled "A Vindication of Saccharin," we were very careful to emphasize our ideas on this point, but facts are very stubborn things, and when words are taken down as uttered and reported in the authorised publication of the Society to whom they are addressed, it may be taken that they authoritatively represent the opinions and motives of the speaker, and we think we shall be able to show you out of the mouths of the prime movers of the opposition to saccharin in France, that it was rather a question of protection by which they were actuated rather than by any zeal for either science or hygiene.

Dr. Worms started the discussion, so we will take his case first. It cannot be said that he is a great medical authority whose dictum would weigh against that of men of such standing as Drs. Pavey or Thomas Stevenson, to say nothing of his own compatriots, Drs. Constantin Paul or Pietra Santa. Dr. Worms reads a paper before the Academy of Medicine of France—a body before which one would think only a purely scientific paper would be read, but this particular composition bristled with considerations purely business-like, from which we cull the following as samples of the bulk:—"If we succeed in dethroning beet sugar by the substitution of saccharin in alimentation in any form, the universal sugar industry would be greatly disturbed. . . . If some less costly process of manufacturing saccharin is discovered, it is without the shadow of a doubt that the competition of sugar would be difficult. . . . The principal point which dominates the whole question is that the substitution of tar sugar for cane or beet sugar is a matter of certainty; the day the cost of its manufacture becomes sensibly lessened." He then entered into an elaborate calculation to prove that even at its present price, saccharin in terms of relative sweetening power was less costly in France than beet sugar. Surely here be motives. After such eminently commercial arguments as these, he cited four cases, in three of which he alleged saccharin had disagreed with the patients, causing digestive troubles. These cases were of such a flimsy nature that unless further evidence could be procured, it was certain that the sense of the Academy would be against placing any reliance on his experiences. He therefore came to London to see Dr. Pavy, who told him that he had never found its use to cause dyspeptic troubles, but he had found patients take it with great satisfaction. On his return to Paris Dr. Worms informs the Academy that "Dr. Pavy, like himself, had found saccharin to cause digestive troubles, so much so that he had quite discontinued its prescription." When Dr. Pavy wrote and requested him to contradict this statement, "which was diametrically opposed to the words he did say," what did Dr. Worms do? He merely stated before the Academy that Dr. Pavy wished him to state the nature of the dyspeptic troubles he had observed from the use of saccharin, and in deference to that request he begged to state that it was a prolonged and sweet taste in the mouth. Your article says the Pavy-Worms controversy arose from a mistake. Personally we should have used a much stronger word.

The next opponent of saccharin is Dr. Dujardin-Beaumetz, who is a man of much greater eminence than Dr. Worms. Shortly before the date of Dr. Worms' paper Dr. Beaumetz read a paper before the Therapeutical Society of Paris, in which he said: "I do not know how too forcibly to recommend to you the use of saccharin, which permits of the use of dishes of a most agreeable flavour, quite equal to those made from sugar." Taking part in the discussion on Dr. Worms' paper, Dr. Beaumetz said he certainly had never observed in the many cases where he had used saccharin any of the troubles spoken of by Dr. Worms; on the contrary, he cited instances in support of an opposite view; but he says, "if, as our colleague has forcibly said, saccharin is to compete with the sugar industries, the question assumes another aspect, and its sweetening power makes it a dangerous rival to sugar, whilst already it is largely used in the industries."

To the foregoing remarks let us adduce the message of M. Lepére, Secretary-General to the Prefecture of Police, who in appointing the committee, of which that turncoat, Dr. Dujardin-Beaumetz, was president and reporter, said: "The use of this new product threatens the interests of the Treasury, of agriculture, and of the sugar industries. It is also possible that it may injure the public health." Is it not apparent that the last sentence was an indication of the loophole by which the committee were to escape any criticism on their report? Surely these words show distinct motive, and in face of them whereof it needs no Œdipus to read between the lines; if interested motives have been imputed, the imputation is thoroughly deserved and justifiable. As a matter of fact, the first people to point out the object of the opposition were the French papers, *La France*, *La Patriote*, and *le Courrier*

de Lyons, but really the underlying motive was too apparent to escape notice. It is well known that France is distinctly a protectionist nation, and saccharin is not the first article of universal commerce they have interdicted. It is impossible to import lucifer matches and velveteens into that republic (!) to say nothing of pork and salicylic acid; whilst the tobacco trade is in the hands of a regie, who work it as an absolute Government monopoly.

In contradistinction to the action of the French Government (which is the only country where any one has raised a voice to dare assert that saccharin is in any way toxic or harmful to health) we have the Governments of Holland, Italy, Belgium, and Austro-Hungary. who have all declared officially, after consultation with their respective academies of medicine, that there is nothing harmful in saccharin which should cause any regulation of its importation, which is permitted, as also its use in articles of food.

As to the question raised in France as to the noxious effect of saccharin on the system, we have only to point to the foregoing paragraph, and to the opinions to the contrary of the highest authorities in France itself, England, Italy, Germany, Switzerland, and Belgium (which we print in our "Vindication of Saccharin") to show the utter hollowness and absurdity of any such theory.—Apologising for the extreme length of our letter,—We are, dear Sir, yours truly,

WILSON, SALAMON & Co.

LIVERPOOL HOSPITAL SUNDAY AND OUR MEDICAL CHARITIES.

To the Editor of The Provincial Medical Journal.

Sir,—Now that the public are invited to give to the above, may I be allowed to call attention to some points in connection with the working of our charities. The last Charity Organisation Report stated that there has been a falling off of £3,410 in the annual subscriptions to fourteen of our local charities. Our hospitals—in so far as they confine themselves to ministering to the wants of the sick poor—are doing a noble work; but at present they are causing a great evil. It is always to be recognised that charity, at its very best, is a thing of temporary benefit only, and that when aid is permanently demanded by a family, and is given, it becomes a source of evil. It may be said that next to our Poor-law system the medical profession is the greatest pauperising body in the United Kingdom. It does more charitable work than any other. Unfortunately for the thrift of the country, the being on the staff of a charity is the chief way by which medical men advertise. I only mention this to show that we need expect little reform from those practitioners who are on the medical staff. All grant that the Poor-law is greatly abused, and that other charitable institutions are liable to be cheated, yet few or none would state that our local medical charities suffer in this respect, when a medical man will spend from £200 to £300 canvassing for an hospital appointment, his aims are likely to be other than merely posing as the minister to "suffering humanity." One London doctor has stated that it would pay a medical man to give people money so as to bribe them to come to the hospital.

Our hospital authorities do not seem inclined to check well-known abuses, with one or two honourable exceptions, they systematically repeat, "there is no abuse." It has been stated that they fear to face a public inquiry, as the condition of affairs shown, would put a quick check on the givings by snbscribers. I do not think it would. That a strict investigation is urgently needed, may be noted by the fact that out of a population of 600,000, 256,000 receive medical relief at the hospitals, and that 43,204 are provided with doctors and medicines by our three parochial authorities; nor do these numbers include those who are treated at the three city fever hospitals, or through private sources. The fact that of every three people in Liverpool, one receives medical charity is surely sufficient to bring the above serious condition of affairs to the front, and for a time at least "to give us pause." These figures compare favourably with those of other cities, for in some of these one in two goes to the hospital. The fact that when Manchester took this question up, and found that 42.32 per cent. who applied were ineligible for treatment, and that last year only 13 per cent. who applied were so, proves the wide spread abuse. And the fact that the London Hospital in Whitechapel, found that nearly 50 per cent. were not suitable cases proves it also. The reason of Liverpool demanding so much charity is explained by some that the people are poor, and in irregular employment.

But who will state that the Whitechapel dwellers are better off than the working classes here. Besides the average rate of abuse in this city is no greater than in any other towns, although the contrary has been stated. Supposing the plan followed by the Children's Hospital, London, of giving advice once only until the applicant produces a letter from the Charity Organization Society, stating that the person is worthy of relief, were put into force here, would enormous abuses not be detected. Is it not well known to a great many that people can afford to pay 5/- or 10/- for a railway ticket, and then go to the hospital for free advice; and also that many with their 12/- to 24/- per week "sick pay" take advantage of the charities. The mere fact that some medical men contract to give treatment and medicine to each member of a tontine for the sum of 3/6 per annum makes their doctors crowd these into the charities, so as to get rid of them.

It may be argued that the people who go to the Hospitals try to pay for what they receive, and that the working classes by their subscriptions to the Hospital Saturday Fund endeavour to pay their way. But the fact that a working man does not by this gift of his purchase the right to demand medical relief is well known. He does not purchase the right to go on the parish, because he has paid poor rate. And if the Saturday Fund did purchase this right for the working classes, why cannot the well-to-do givers to the Hospital Sunday Fund claim similar rewards? The fact is if our charity is genuine this *quid pro quo* would not come to the front so often as it now does. Can any one deny that it is not a common custom for the guinea or two guinea subscriber to give his "tickets" of recommendation to his servants or employees, and so save the medical fees and chemist's account? Would those who do so have the effrontery to send down to the hospital for a medical man, so that their servant might be treated free. Yet the difference would be small. It has been stated in the Annual Hospital Reports that the patients pay partly for what they receive. Well the 256,000 patients in '85 paid £6,655, or about 6d. per patient per annum, or about 1d per visit or operation, calculated at four visits to each. Considering the well-to-do classes who frequent the hospitals, these fees cannot be said to amount to much. However, it is to be remembered that the more paying patients the less chance for the genuine poor. It is really difficult to understand how good men make the "sick poor" pay over £6,000 per annum, for the charity bestowed, that is supposing it is agreed that there is "no abuse." Is the mere fact that the sum is paid, not a distinct negative to the statement made by one charity—"we treat only the 'sick poor.'"

Our eighteen medical charities in 1885, had an income of £61,482, and an expenditure of £62,812. They were in debt to about £14,451, four having a balance of £510. Their funded property amounted to £148,960; while the estimated value of their buildings were about £89,106. It is difficult to understand why they are in debt. Certainly if any other institutions were so, a close investigation would be demanded. It is well known, however, that the only healthy state for a hospital to be in is one of great debt, else how could an appeal be made to the public? This constant state of debt coupled with the fact that our hospital managers wish to increase the number of patients must suggest to the thinking public that they wish extend the parochial system, of free medical treatment and medicines to the entire community. If ten or twelve more hospitals were built, it would soon be found that there was room for a few more, and it would be shewn that people have as strong an aversion to the paying of medical bills as they have to the poor-rate, Income Tax, or school fees. Yet although there is a large machinery for working these, we are informed that there is no necessity for its application to the medical charities. The advice of a hospital committee to its medical staff is—"mind and keep up the numbers;" a falling off looks bad; in other words, thrift and provident habits are not to be encouraged. One of our local charities with a guileless simplicity, informs us that the *daily average* of patients treated is 647; this gives about seventy patients to each of their nine doctors—a truly imposing state of affairs! Yet one has a difficulty in deciding whether this statement is made so as to disgust the thinking public, or to show how worthy this particular charity is of support.

As a reason for increased support to our hospitals, it has been stated that they are required for teaching purposes. But this argument does not hold since it has been shown that the workhouse infirmaries might be utilized. Also the city fever hospitals should be used for teaching the students the different fevers. At present the law prevents the use of the workhouse hospitals for teaching purposes, but this useless prohibition could easily be removed. The fees thus acquired would tend to lessen the poor-rates.

A painful question, and one systematically ignored by hospital managers and by the clergy when preaching about our charities, that a very large number of people treated at the hospitals come there either directly or indirectly through drink and prostitution. The City Police Report of the last year states that 15,979 persons were drunk when arrested; and just as the same report states that the majority of such arrests take place on Saturday night, so the majority of casual cases crowd to the hospitals on the same day. As regards venereal diseases; the statements of the hospital reports are so drawn up as to give little useful information. But if the comparison is of any use one may state that in our Navy for 1887, and comprising a total 48,410, 7,456 men were invalided for this one disease; while in our Army,

with its 92,601, 24,731 men were on the sick list for this one disorder. If it be granted that at least fifteen others are infected by these, a glimpse will be given into this deplorably sad state, and an idea suggested of the enormous evil worked. Supposing a "storm warning" for disease were issued by our medical officer of health, would the signal not be raised on Fridays when pay day is near, and when the wage earning classes make fools of themselves by getting drunk, and when vice, immorality, and injuries follow. And if the Three Thousand could be removed off the streets, would a healthier condition of affairs not follow.

At present there is no union among our eighteen medical charities; each make and unmake their rules. Each have their annual meeting at different dates; each makes its bid for public support. One competes against the other as regards the number of patients treated. All refuse to put any restriction as to the suitability of applicants. A monopoly of the medical appointments is encouraged, thus defrauding the public of any information, which is the property of the medical profession, the subscription list has been sacrificed for the Hospital Sunday appeal; the fact is ignored that spasmodic work is bad, while organised subscribing is the best plan. People are enticed into hospitals by the "paying bed" system, and thus the deserving poor being excluded are forced into the workhouse. Entire families are lead to boast that they go the hospitals, with this effect that all efforts at thrift are swamped, and the working man is induced to yield to the influences of the medical charities or workhouse Infirmary.

Hoping that the present happy-go-lucky methods may give way to a better organisation and combination of our charities.—I am, yours,

Liverpool. ROBERT RENTOUL.

THE PROGRESS OF A YOUNG PRACTITIONER.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

THE subject about which I am to write a few words, though not bearing upon disease, has reference to those who treat it. I hope, therefore, it may not be excluded from your journal because it is not of strictly medical interest. In a recent issue of the *British Medical Journal*, there was a leading article on "The Waste and Supply of Medical Practitioners," which stated there were 826 members in the profession beyond what was requisite to keep pace with the population. Now that is a serious consideration for many young members like myself, who already are in practice, or about to begin. Most men have neither capital nor influence, and must set up wherever they think the prospects are best, and be content to labour and to wait. There are others, more favoured, who have means and buy practices. With the favoured kind I have nothing to do. What I want to know from old and experienced practitioners who have had to plod their way from the bottom of the ladder upwards, is, in what time would they reasonably expect an average man, beginning practice under similar circumstances, to make a fair competence, of say, £300 per annum? I know no definite answer can be given; it all depends upon the man and his chances. But surely there is an average degree of success which might be stated in figures at which a man of ordinary intelligence and perseverance may hope to attain. It is stated in the article already alluded to, that only 50 per cent. of the men who get qualified in a certain London school, achieved fair success in fifteen years. We are left in doubt as to what fair success is. It seems very slow work to be fifteen years making a practice worth £300 a year, if even that can be called a fair practice. In building a practice, all depends upon the man, and not his attainments. I suppose there is an average degree of success, though for obvious reasons it is difficult to get the results of each one's work. At this time it is a more difficult work to make a practice amongst a community, than it was some years ago, because, now-a-days, it is a question of who will serve the community best and at the cheapest rate, as they have a large enough supply to pick from.—I am, yours truly,

JUNIOR.

UNQUALIFIED ASSISTANTS.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

DEAR SIR,—Your leader in the last number of the PROVINCIAL MEDICAL JOURNAL entitles you to the thanks of unqualified assistants, and I think it may come under the notice of some of our representatives on the Medical Council. The scheme is simple, and if properly worked out will put an end to a very vexed question. It is quite true, as you say, that it would be an injustice to turn us out on the world without a means of livelihood. Many of us are assistants through no fault of our own, and I venture to think we are useful in our proper sphere.—I am, yours truly, AN ASSISTANT.

Manchester, January 15th, 1889.

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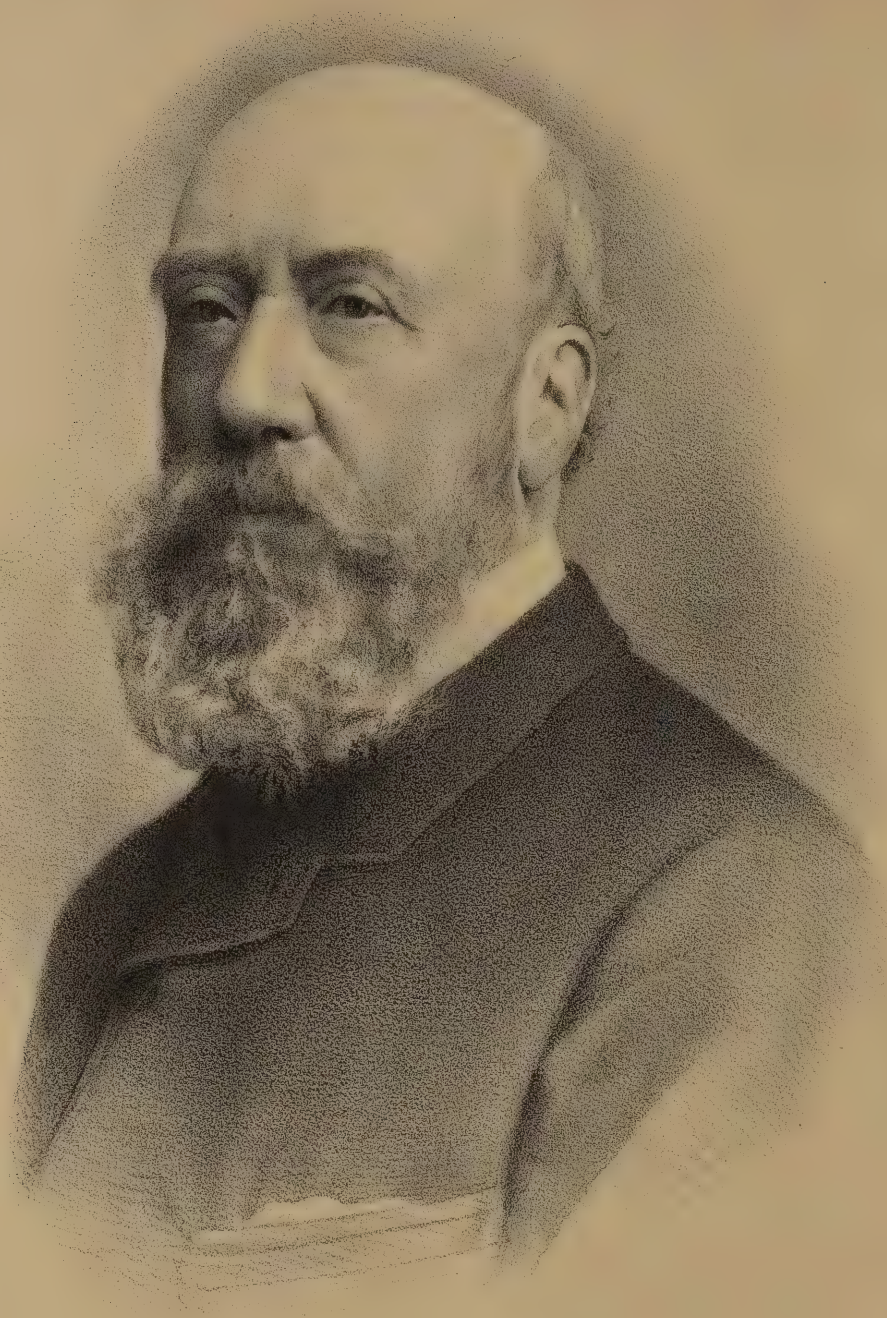

Yours faithfully

Robert Barnes -

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Our Portrait Gallery.

ROBERT BARNES, M.D., ETC.

ROBERT BARNES, M.D. Lond., F.R.C.P., F.R.C.S., Hon. Fellow King's and Queen's College of Physicians in Ireland, was born in Norwich. His father, Philip Barnes, F.L.S., was the founder of the Royal Botanic Society. His early education was conducted in Bruges, Belgium, where he laid the foundation of his skill in languages. His medical education began in his native town, where he passed a short apprenticeship under Richard Griffin, well known for his zeal in the cause of the Poor-law medical officers. He entered at University College, and then at the private school in Little Windmill-street, under Gregory Smith. To this he was led by being appointed House-Surgeon to the Queen Adelaide Lying-in Hospital in the immediate vicinity. In this hospital he began his work in Obstetrics. Resident pupils came from all the hospital schools, and Barnes assisted in their clinical instruction, attending all the difficult cases in and out of the hospital for more than a year. Gregory Smith's school being closed, Barnes was tranferred to Samuel Lane's and St. George's Hospital. Under Mr. Lane he acted as Demonstrator of Anatomy. Having passed as M.R.C.S., he went to Paris, where he studied Medicine, Operative Surgery, and Obstetrics, not neglecting general science and literature at the Collège de France and the Sorbonne, for nearly two years. He edited in the *Lancet* the lectures on "Insanity" of Baillarger, under whom he had worked at the Salpétrière. He was appointed Lecturer on Forensic Medicine at Dermott's School in Bloomsbury Square; and the better to qualify himself to teach he studied Practical Chemistry under Prof. Hoffman at the College of Chemistry.

Intimate and constant as was his devotion to obstetrics, it was not exclusive. Early in life he spent a year at sea. For fifteen years he was Physician to the Seamen's Hospital, Dreadnought. One result of the knowledge thus acquired was his Report on Scurvy in the Merchant Service to the Privy Council, made at the request of Sir John Simon, and his evidence on the same subject before a Royal Commission. His principal scientific writings are: "On Fatty Degeneration of the Placenta," *Med. Chir. Trans.*, 1851-3; "Lectures on Puerperal Fever," *Lancet*, 1865-6; "The Lettsomian Lectures on Placenta Prævia," 1867; "On the Convulsive Diseases of Women," the Lumleian Lectures at the Royal College of Physicians, 1873; "Obstetric Medicine and Surgery," in conjunction with Fancourt Barnes; "The Medical and Surgical Diseases of Women;" "Lectures on Obstetric Operations," which have gone through several editions at home and abroad, and which have probably more largely than any other work influenced modern obstetric practice. It attracted attention by the originality of the author's illustrations. He worked on the editorial staff of the *Lancet*.

Dr. Barnes presided over the Obstetric Section of the International Congress at Philadelphia in 1877. He assisted Tyler Smith in the foundation of the Obstetrical Society, and was President in 1865-6. He has been President of the Hunterian Society, and is Honorary President of the British Gynæcological Society. He has served as Censor and Examiner of the Royal College of Physicians; Examiner of the University of London, and of the College of Surgeons. The last appointment he resigned under circumstances especially honourable to himself. The Council of the College, without consulting the Fellows and Members, had obtained a Charter empowering them to grant special licences in Midwifery apart from Medicine and Surgery. The examiners, Drs. Farre, Barnes, and Priestley, were invited to examine "persons" for this licence. Dr. Barnes at once refused. This refusal entailed the resignation of his colleagues, and so the Charter became a dead letter. He has been successively Obstetric Physician to the London, St. Thomas', and St. George's Hospitals. He has also been Physician to the Royal Maternity Charity. He initiated the organisation of the Graduates of the London University, which led to their incorporation in Convocation, and representation in Parliament. Our portrait is from a photograph by the well-known artist, Horsburgh, of Edinburgh.

Original Communications.

SUGGESTIONS FOR THE MORE RATIONAL THERAPEUTICAL TREATMENT OF RESPIRATORY AFFECTIONS.[1]

By C. CLARK BURMAN, L.R.C.P., L.R.C.S. Edin.,
BELFORD, NORTHUMBERLAND.

(*Continued from page* 73.)

BEFORE entering upon the consideration of the treatment of acute bronchitis, chronic bronchitis, with its complications, emphysema, cardiac affection, etc., and the various symptomatic disorders depending upon one or other form of respiratory embarrassment previously mentioned, it will be instructive to look at the physiological action of those drugs, and classes of drugs, which are chiefly used. I have assumed all along that belladonna and nux vomica possess characteristic properties dependent on their action upon the respiratory centre. I have deprecated the use of sedatives, and especially of opium, in the treatment of acute diseases, of the parenchyma at least, of the respiratory organs, and particularly of chronic affections when distinct structural changes, more or less permanent, exist; and in other diseases which tend to produce embarrassment of the respiratory act; so that I am obliged to point out upon what grounds I base my objections to sedatives, and those upon which I advocate the use of respiratory stimulants.

Expectorants are remedies possessed of the power of modifying the secretions, and thereby influencing the inflammatory conditions of the respiratory mucous membrane, and which facilitate in various ways the expulsion of the secretions. This latter definition is necessary in order that we may include certain drugs which owe their "expectorant" properties to their purely mechanical effect, as is well seen in the action of an emetic, say, of sulphate of zinc, or even mustard and water, in some forms of suffocative catarrh. Expectorants are usually divided into the well-known classes of depressant and stimulant. I would sub-divide the latter class into, (1) those whose action is more or less general, and (2) those whose influence is directly due to their action upon the respiratory centre.

The drugs belonging to Class I. include ipecac., antimony, aconite, calabar bean, iodide of potassium, chloral hydrate, chlorides of soda, potassium and ammonium, acetate and citrate of ammonia, steam, etc., etc. In Class II. we have squill, senega, carbonate of ammonia, the various balsams and gum-resins, etc., forming the primary division, and belladonna, nux vomica, etc., constituting a secondary division. The mode of action of the drugs belonging to Class I., and the first division of Class II., is so well understood that little need be said about it. "But it is not a matter of indifference which one of the agents known as expectorants be resorted to. In the first stages of the case the bronchial mucous membrane is swollen, congested, turgid and dry; it is hyperæmic, but secretion is arrested, and the mucus is scanty and tenacious, and got up only with the greatest difficulty. It is obvious that here one part of the treatment must be to relieve the vascular system, to reduce the turgescence, without which free secretion cannot be attained. To give ammonia and senega would not achieve the desired end. The agent to be used must be one which will affect the circulation; which will relax the cutaneous vessels and depress the circulation. Such an agent we find in tartar emetic, in iodide of potassium, or ipecacuanha. The administration of these agents is the line to be pursued until turgescence passes into free bronchial secretion, and a moist condition of the skin is secured; then, and then only, are the stimulating expectorants to be resorted to." This quotation, from Dr. Milner Fothergill's "Handbook of Treatment," gives us a rational as well as a physiological plan of procedure, and comprises the whole truth regarding the use of expectorants if we wish for success to follow their administration. It is universal in its application, and is a sure guide. When secretion is free, then squill, senega, and ammonia, etc., may be given with advantage. The indications for treatment now are to sustain the system during the exhaustive process of breathing through the obstructed air-tubes, and expelling the phlegm.

We see, then, that many of the expectorant remedies act not only upon the bronchial mucous membrane, but have a decided influence upon the system at large. Ipecacuan, has, no doubt, its specific action; but in addition, it has powerful diaphoretic and other properties which aid this action Iodide of potassium acts principally through the absorbents and depresses the circulation. The acetate and citrate of ammonia produce their good effects by dilating the cutaneous capillaries, and consequently a free action of the sudiparous glands; thus drawing blood into this area and reducing the quantity in the pulmonary tissue; but other drugs which I shall mention particularly, have a direct influence upon the rhythmically discharging centres of respiration, combined in some cases with a similar action upon the circulatory centres. To these I intend to direct attention, since to them we owe much of the good in cases beyond the power of the so-called expectorants; and from them, when used without careful consideration, we unfortunately meet with the most serious consequences.

Among the most active of respiratory depressants—that is to say, upon the respiratory centre directly—we must consider.

1. *Calabar Bean.*—This drug was proved by Professor Frazer to have a profound effect upon this centre. "After a small lethal dose of the poison, the fatal result is always due to failure of the respiration; and if the body be at once opened the heart is found still beating; indeed, it has been seen to continue to do so for one hour and a half after death" (Frazer). "The symptoms induced by the drug in man are completely parallel with those that occur in the lower animals" (H. C. Wood). Although both the respiratory and circulatory centres are influenced, the chief action is upon the former; for Professor Frazer found its effects were distinctly counteracted by atropia, which is *par excellence* a respiratory stimulant.

2. *Aconite* acts very decidedly upon this centre; and its effect is not produced by any stimulation of the inhibitory nerves of the vagus and so arresting the action of the discharging centre, but by the effects upon the centre itself;

[1] [To the writings of the late Dr. Milner Fothergill, whose recent decease the profession still mourns, I must express my great indebtedness, not only for suggesting the line of thought I have endeavoured to follow in this paper; but also, as the readers of his works will observe, by the numerous quotations, for the actual words in which to express my meaning. I take the opportunity, therefore, at this stage to fully acknowledge this assistance in a general way, and thus avoid a repetition of references. For further information I would suggest a careful perusal of the following works of Dr. Milner Fothergill: "The Antagonism of Therapeutic Agents," "Chronic Bronchitis," "Handbook of Treatment," "The Physiological Factor in Diagnosis," and "Gout in its Protean Aspects."]

because previous section of the vagi did not influence the action of aconite upon the respiration (Fothergill). "Aconite is a direct depressant and paralysant of the respiratory centres" (H. C. Wood).

This property of aconite is not, I think, so well recognized as its depression of the circulatory centres, and owing to its frequent administration in inflammatory respiratory affections, when the vascular tension is high, we should be careful to remember and look for its manifestation in case respiratory embarrassment comes on, for fear of increasing, instead of reducing it. We have the means of preventing the respiratory depression by the counteracting influence of atropia, and thus may get the effect upon the vascular, without injuring the respiratory system.

3. *Chloral* depresses all nervous action, and its influence on respiration and circulation does not differ from its action upon the nervous system, unless it be in degree. "It kills by paralyzing the centres of circulation and respiration, especially the latter" (H. C. Wood).

4. *Opium and its Derivative—Morphia* act upon all nerve centres, but especially on those of respiration. This influence is perhaps most vividly seen in cases of opium poisoning, where we do not judge of the danger by the unconsciousness, but by the state of the respiration, and all our efforts are directed to keep up the latter by artificial means so long as the heart continues to beat, which is, fortunately, the last to succumb. That this action is upon the centre itself is proved by its effects continuing after section of the vagi.

These are the principal direct respiratory depressants. As we have found that some of the depressants have their action partly upon both centres, and others only upon one, so among the stimulants we find the same.

1. *Strychnia* has a decided influence upon the nervous system as a whole; still it has been found by Rokitanski, Mayer, etc., to possess a marked stimulating effect upon the centres for circulation, and from observation of its antagonism to certain well-known respiratory depressants, chloral and aconite, we draw a favourable conclusion of its utility in diseases in which the respiratory act is imperfectly performed. Liebreich and Bennett found it exercised an influence over chloral in toxic doses, and Bennett found chloral even more potent in strychnia poisoning, for strychnia produced expiratory spasm. Leube and Rosenthal found that artificial respiration prolongs and even saves life, according to the amount of strychnia injected. "Strychnia excites or stimulates the respiratory centre, but in *lethal* doses it acts most pronouncedly upon the expiratory portion of the respiratory act" ("Antagonism of Therapeutic Agents"). This subject needs further investigation by experimentation, but clinical observation warrants the theory of stimulation of the respiratory centre, and in the treatment of chronic bronchitis with emphysema it is very useful, and gives much better results than carbonate of ammonia alone. Dr. Thorowgood strongly recommends it in cases of paralytic and emphysematous asthma.

2. *Atropia* acts upon both centres, but its influence is by far the most marked upon that of respiration, and no better proof of this is to be found than in its wonderful power of antagonising the poison of opium and aconite, in which the respiratory depression is so well marked. Professor Frazer found it to at once restore the failing respiration and circulation in Calabar Bean poisoning; the acceleration of the rhythm of each under its influence being very marked. There are numerous instances on record of the great and almost immediate effects of the hypodermic injection of atropia in cases of opium poisoning, and it is, certainly, the best treatment to adopt so soon as the stomach has been emptied. If necessary, artificial respiration must be carried on.

3. *Ammonia*—The stimulating properties of the carbonate of ammonia are so thoroughly well recognized that mention of them is scarcely needed. No doubt it is a temporary but a potent stimulant, and useful when we wish to aid quickly the embarrassed respiration. "Ammonia is an intense direct stimulant to the respiratory centres in the medulla oblongata" (H. C. Wood). For more detailed information respecting the physiological action of these drugs, as demonstrated by experiment, I must refer my readers to chap. II. of Dr. Milner Fothergill's essay on "The Antagonism of Therapeutic Agents; and what it teaches." This consideration of the physiological action of certain drugs, as retarding or accelerating the nervous discharges of the respiratory and circulatory centres, will open the way to the treatment of bronchitis.

Acute bronchitis becomes more dangerous the nearer we approach the two extremes of life; and here it is that the well regulated use of belladonna is found to be of the greatest service. That children stand belladonna exceedingly well, and require a larger dose in proportion than of most other drugs, is well known. With reference to the aged, when the low vitality calls for nervine tonics, we must remember that the vesical irritability usually met with at this time of life, is aggravated by the exhibition of one of our best known nerve tonics—strychnia—and the administration of belladonna as a substitute for the respiratory affection is strongly recommended. Again, in convalescence from an acute attack of bronchitis, when we are anxious to assist in improving the vascular condition, iron, except in its mildest forms, is objectionable for the same reason.

In the treatment of acute bronchitis of the sthenic variety, our chief indications for treatment will be regulated by the condition of the vascular tension, and, according to it, we endeavour to relieve by depressants in the first stage, so as to reduce the turgescence of the bronchial mucous membrane and permit free secretion. In adults, when conditions are favourable, I do not object to the prescription of Dovers' powder (the ipecac. counteracting the opium) and antimony, but after the skin has acted freely, and secretion has become established, I would omit the opium, and trust to one of the many expectorant remedies of Class II. I fancy that in jaborandi, or its alkaloid pilocarpin, we have a means of avoiding opium, even in the dry stage, and look for good results to follow its more extended use. But I wish to leave the conduct of treatment to ordinary principles and to turn attention to those cases which go beyond the limit of safety and give us so much anxiety; especially capillary bronchitis, broncho-pneumonia, and acute exacerbations in the course of old standing chronic bronchitis.

Much has been said about the vitality of young children, but I think my readers will agree with me that even in the strongest child the appearance of capillary bronchitis, either as a primary disease, or secondary to some other affection, as measles, whooping-cough, is a circumstance, none of us can contemplate without the gloomiest forebodings.

Dr. Ellis in his "Diseases of Children" says: "The symptoms become extremely urgent, the breathing is oppressed almost to suffocation, there is ceaseless jactitation, well-nigh uncountable pulse, a bluish cast over the features,

beads of cold sweat on the forehead. The cough is smothered and less frequent, the child dreads to speak, both because of the dyspnœa and also from the fear of exciting a coughing paroxysm. Such a condition it is scarcely necessary to say is fraught with extreme peril, and the end may rapidly come, either by coma or convulsions."—P. 295, 4th edition.

This characteristic and truthful description points to the use of remedies which will restore power to a centre well-nigh exhausted. This exhaustion is seen in the diminished frequency of the cough, and in the oppressed breathing. The child frequently is unable to lie down, but sits up looking piteously around for assistance. Here we have the quickly acting carbonate of ammonia, given in doses regulated so as to avoid vomiting (unless the evidence of accumulated secretion points to the use of an emetic, when, by increasing the dose we secure its emetic action without the depression so frequently found after other drugs, even ipecacuanha wine), and with the ammonia, tincture of belladonna and nux vomica, given freely, watching the result, and reducing the dose when the respirations become stronger and deeper, at the same time counteracting the failing energy by the exhibition of stimulants and good nutritious food. By increasing the power of the failing centre we give strength to both inspiration and expiration, points to be remembered when emphysema is present, not an unfrequent accompaniment of this disease. This, with the constant application of poultices, and a room heated to 65° and kept moist by the vapour from a bronchitis kettle, will meet every indication.

Broncho-pneumonia, or catarrhal pneumonia as it is now generally called, differs from capillary bronchitis in that it is almost always secondary to some other disease, such as measles, whooping cough, etc.; consequently we are met with urgent symptoms, intensified by the co-existing weakness resulting from the primary disorder, and rapid development of cerebral symptoms is marked, together with a much higher temperature curve than in capillary bronchitis. Though the latter is much more rapid in its course, it tends rather to a fatal issue unless speedily combated, while the former, fortunately, more frequently ends in recovery if the co-existing debility is not extreme. Here the treatment is essentially the same as for capillary bronchitis, and according to Dr. Stierlin, of Schaffhausen, who gives from five to twenty grains of carbonate of ammonia, he lost only seven out of 150 cases; but most writers recommend quinine as the best remedy for reducing the temperature without producing depression. Dr. Leonard Weber, of New York, advocates strongly the mustard bath, made by diffusing one pound of mustard in a small bath of water at 105°, keeping the child in ten minutes, making thorough friction all over the surface until the skin becomes pinkish, after which the patient is put into a warm bed. The bath relieves the congested lungs and overburdened heart by increasing the amount of blood in the peripheral circulation, also by stimulating reflexly the vaso-motor centres. In those cases where the debility contra-indicates this proceeding, and where the constant changing of poultices for the same reason is decided against, the moist girdle as directed by Vogel is very useful. A piece of flannel, two yards long and wide enough to reach from the armpits to the hips, is wrung out of hot water so that it will not drip, and wrapped round the body closely, but not so as to interfere with the respiratory movements, and the ends secured by means of pins. This moist wrapper is covered by a dry warm one, which must be changed as often as it gets wet. The inner wrapper should not be removed for several days, but be kept moist by applying as often as is necessary warm water with a sponge. A sufficiently large piece of spongio-piline would answer the same purpose; and, if counter-irritation were deemed necessary, turpentine might be sprinkled over it after being wrung out of the hot water. The administration of belladonna and nux vomica, I think, is indicated when the respirations mount up in frequency and are shallow, and should be freely pushed if any lividity of the lips shows itself; while digitalis is not unfrequently needed when the heart manifests signs of weakness.

The treatment of acute inflammatory diseases of children by repeated small doses of aconite and green hellebore, as advanced by Dr. Lewis Smith, of New York, cannot in my opinion be of great service in the diseases just considered; since, as secondary affections, they are unsuitable for the administration of such potent depressants, and quinine is probably more useful. As primary diseases, they might be met with these drugs, but their dangers are almost equal to their benefits; still, Dr. Ellis in his work speaks highly of this plan. I have myself no experience of it whatever.

Acute Exacerbations during Chronic Bronchitis.—I take this part of the subject here, though it would perhaps more appropriately fall under chronic bronchitis; but I intend my remarks upon chronic bronchitis to be more general than particular, especially as it would be impossible to enter upon the consideration of the treatment of the different forms of the disease, as well as the manifold complications and accompaniments, in a paper of this description. I wish to point out, not so much the plan of treatment to be carried out, but rather to suggest additions, in the form of drugs which we have found to possess so marked an influence upon the respiratory centre, and also to emphasise the dangers of other drugs whose action is decidedly unfavourable, and to urge their discontinuance. The objection urged by the advocates of such drugs, that the conditions at times become so marked as to render their use imperative, may be readily met by showing that the fault lies in allowing these conditions to become so imperative, as also showing how, if already existing, they may be subdued without resort to sedatives, and if sedatives are absolutely indicated, then the method of guarding them, so that their good effects are allowed to take place without permitting their almost greater dangers to become apparent. "As no acute catarrh is so liable to frequent relapses, and exhibits such a tendency to become habitual, as that affecting the air passages, so also the chronic form is especially liable either to relapse into acute inflammation with augmentation of intensity, or, on the other hand, to degenerate into blennorrhœa."—(Rokitanski.)

The importance of these acute exacerbations lies in the same fact as we found in broncho-pneumonia, that the patient is already debilitated by his previous illness, and not in a position to stand the action of potent depressant remedies. Hence our line is decidedly that of stimulation, not so much general as special. While it may be necessary to administer alcoholic beverages, we attack the already weakened respiratory centre by means of carbonate of ammonia, belladonna, or nux vomica as the case may be, though it may perhaps be judicious in the first place to reduce the turgescence of the already chronically thickened bronchial mucous membrane by means of iodide of potassium, with acetate of ammonia if the pulse be good, or ipecacuanha wine in the place of the iodide if the pulse be

feeble. In these cases we can resort to the stimulating expectorants at an earlier stage than in ordinary acute attacks. There is one thing of importance in connection with the administration of purgatives to chronic bronchitic patients with acute exacerbation. No doubt purgation may be very useful as a derivative, but the consequent exposure and liability to fresh cold must not be overlooked. Having overcome the comparatively short first stage in these cases, we have now to consider the indications for assisting the weakened respiratory act, so that the additional secretion shall be effectually dislodged and removed. For this purpose the drugs already named will have to be relied upon. The greater the amount of secretion we can remove, the better for our patient, since there is to be considered the long-standing bronchial thickening, which of itself is interfering with admission of air. When the secretion is excessive, and accumulates faster than the act of coughing suffices for its removal, emetics are to be given; but the state of the heart is not to be forgotten, and an emetic which acts speedily, leaving little depression, must be used; probably sulphate of zinc is the best. This may be followed up by a mixture such as—

℞ Liq. Atropia Sulphat., ♏i.-ii.
Liq. Ammon. Anisat. (P. Pruss.), ♏xv.-xx.
Aquam. ad ℥i. ter in die.

Or, if no vesical irritability exist, a combination of—

℞ Ammon Carb., gr. v.
Tinct. Nux vom., ♏x.
Tinct. Scillæ, ♏xx.
Infus. Serpentariæ ad. ℥i. ter in die.

"Senega is not to be used while any acute manifestations are in existence. It is one of the most stimulant substances of its class. Serpentaria is much preferable, and is decidedly superior in the matter of taste."—(Fothergill.)

Where we find the respirations mounting in frequency, with increasing cyanosis, especially if the case is one with cardiac complications, we must push strychnia and digitalis with alcoholic stimulants; and our guide must be the state of the respiration. As its rate comes nearer to normal, so we reduce our dose, or give it less frequently; and we must remember that "strychnia slows the respiration" as "digitalis slows the circulation," the slowing is a *part of the improvement*—the improvement does not rest on the slowing.

Before leaving this subject I must again allude to acute bronchitic attacks occurring in gouty subjects. Here, while we treat the bronchitis, the causal relationship of the gouty diathesis is to be attacked in addition; and alkalies must be freely administered, not only with our "*first stage*" remedies, but later on also; and it may be remembered I remarked that, perhaps, this action of the bronchial mucous membrane might partake of a vicarious nature. We may assist this effort of nature by remedies which will make the respiratory act more effectual, but our chief hopes lie in relieving the toxic condition of the blood by reducing the nitrogenous ingesta, and by bringing skin and bowels to the aid of the functionally imperfect kidneys. While on this subject I am reminded of the dangers of giving opium in acute attacks of gout, when pain is so marked a symptom. The powerful restrictive action, so to speak, of opium upon the functional activity of the liver and kidneys makes it a dangerous drug to use, and this danger is intensified if we have any respiratory disorder co-existing. Chloral, from its depressing action on the vascular system, would, upon theoretical grounds, be safer, and probably, if no respiratory embarrassment accompanied the attack, would be admissible; but my experience is strongly in favour of the hypodermic injection of morphia combined with atropia. When speaking of asthma, I quoted the experience of Dr. Oliver, as recorded by him in the *Practitioner* for January, 1876. No doubt the atropia is indicated, since we wish to increase the inspiratory power which is struggling to get the mastery of the bronchial spasm. The tendency of morphia is decidedly favourable to the reduction of the nervous energy causing the spasm, but its action upon the respiratory centre is that of a depressant, and at such a time depression is far from desirable. What the atropia does is to allow the morphia to have full scope in so far as the spasm is concerned; while its depressant tendencies are thoroughly counteracted by the atropia. In fact, some authorities recommend the hypodermic injection of atropia alone, whereby the respiratory act is so strengthened as to become the victor over the spasm; but in my opinion, the combination of the two drugs is better, since a smaller dose of each is required. I have for several years given up using a solution of morphia alone for all hypodermic purposes; and my experience is that I rarely now find a patient suffer from vomiting or headache, which so frequently occurred when I used morphia alone; and since it is much more convenient to have one solution for *all* cases, I think its advantages are still further increased. The solution I use contains $\frac{1}{5}$ gr. of acetate of morphia, and $\frac{1}{120}$ gr. of atropia in five minims; and this quantity in most cases proves effectual. In a case of acute gout affecting the right knee joint, I used to administer one and sometimes two injections *per diem* for some time, and upon no occasion did any unpleasant symptom follow its use. I should have hesitated to have given an equivalent amount of opium by the mouth. The combination materially adds to its usefulness, and is quite applicable in any case in which morphia in this manner seems to be indicated. I know that since I have used this combination, the occasions upon which my "needle" has been called into requisition have been much more numerous than before, because the after-effects are almost unnoticeable.

Acute Bronchitis.—As I have already said, I need not go over the treatment in detail of an affection, the indications for which, in ordinary cases, are so plain. I wish, particularly, to direct attention to the treatment of cases, where, from the intensity of the respiratory embarrassment, a fatal issue is speedily anticipated. Here we must push strychnia. When the patient is sinking, when death is impending from exhaustion of the respiratory centres, worn out with the sustained efforts which alone can maintain life, heroic measures are not only justifiable, but are actually called for, and strychnia must be given more freely, and in larger doses than usual. Dr. Fothergill says he would not hesitate, in a very grave case, to push strychnia till the limbs twitched, beginning with $\frac{1}{10}$ grain every six or four hours, and increasing the dose if necessary.

In acute bronchitis occurring in elderly people, the impaired vitality offers but a feeble resistance, and adynamic symptoms are apt to supervene early. Alcohol and ammonia are to be given freely, and if strychnia excite the activity of the bladder centres, increasing any vesical irritability, the substitution of belladonna will be more likely to produce good results, since its soothing effects upon these centres will relieve the patient from the annoyance and fatigue connected with the frequent desire to micturate.

The application of poultices is a matter of such great importance, taking the place, as they do, of bleeding, in a

certain manner, by dilating the cutaneous capillaries, and keeping the blood there—thus bleeding the patient into his own blood vessels—and is one which we, as medical men, cannot overlook. In all acute cases poultices should embrace the whole chest, as in the jacket form, as they can be applied and changed with the minimum amount of movement on the part of the patient, and without much exposure; two very essential conditions. As Dr. Lauder Brunton has pointed out, poultices, to be effectual, must be applied hot; but owing to the pain produced, we not unfrequently see them kept until cooled down sufficiently to the feeling of the patient. The consequences are obvious—a very short time elapses before the poultice is so cool as to become useless—an unnecessary number is applied to overcome this, with the result of fatigue and exposure on the part of the patient, which we wish to avoid. This may be obviated by placing a fold of flannel over the patient's chest, and applying the poultice upon it so soon as made. In this way the maximum of benefit is secured with the minimum of fatigue and exposure. The bad conducting property of the flannel allows the heat to pass very gradually to the skin. As the moisture of the poultice soaks through, it becomes a better conductor, and the heat passes more quickly; but the increase is so gradual as not to cause any painful sensation whatever, but only one of soothing and comfort. The poultice also naturally keeps much longer hot, and the necessity for changing it arises much less frequently. If counter-irritation is desired, the plan need not be altered, only modified by wringing the flannel out of hot water in which a certain quantity of mustard has been diffused. This is placed on the chest, and the hot poultice above, and the whole covered over with a sheet of cotton wool or waterproof sheeting. Turpentine may be substituted for the mustard. In one case of pneumonia, at which I met an old practitioner in consultation, owing to the patient's intense disgust at the odour of linseed meal, he recommended a large fold of lint, sufficient to envelop the chest, to be saturated with camphorated oil, and applied; over this, oiled silk, closely fastened by means of a few stitches to the lint below. This made an excellent substitute for the poultice, and did not interfere with the treatment of a large blister, which was subsequently applied.

Inhalations.—The value of the inhalation of steam as a means of reducing the dry and turgid condition of the bronchial mucous membrane is well recognised; but the profession is not so unaminous upon the subject of medicated inhalations, or the use of oral and oro-nasal respirators, whereby the air drawn into the chest passes through a layer of cotton wool or other material upon which certain volatile substances, such as carbolic acid, creasote, terebene, iodine, eucalyptol, etc., have been placed. Drs. Burney Yeo and Sinclair Coghill are strong advocates of the latter plan in cases of phthisis; but Dr. A. Hill Hassal asserts that so minute a quantity reaches the lungs that they are practically useless. The paper of the latter gentleman in the *Lancet* for May 5th, 1883, and again in *British Medical Journal* for November 3rd, 1883, founded upon carefully conducted experiments with (1) oro-nasal respirators, (2) vapour of hot water, (3) steam spray inhalation, (4) air spray, seem to point to the conclusion that each and all of them are possessed of little power for good. Dr. Burney Yeo, in a communication to the *British Medical Journal*, May 19th, 1884, contradicts the results of Dr. A. Hill Hassal, and maintains that, when carbolic acid is mixed with twice its weight of sp. chlorof. and used with the inhalation respirator as recommended by him, 2.5 grains of carbolic acid can be vaporised in one hour, so that, if worn twelve hours out of the twenty-four, thirty grains of the acid will be diffused into the air respired. Dr. A. Hill Hassal, in the *British Medical Journal* for January 12th, 1884, suggests a system of inhalation in properly constructed chambers, the air of which is permeated with certain drugs by means of evaporation over hot water spread over a comparatively large surface. In this way substances, possessing a low degree of volatility at ordinary temperatures, may be diffused throughout the atmosphere of a chamber with great facility.

This controversy chiefly affects the treatment of phthisis; but the application of precisely the same principles in the treatment of bronchitis, especially chronic forms of the disease, is now so largely practised, and since it promises to be so successful (at least, the clinical evidence brought forward in its favour is very great), it is to be hoped no means will be spared to make its application as perfect as possible; so that, either by means of inhalation from properly constructed respirators, or similar instruments, or in specially designed chambers, the substance employed may reach the smaller bronchi and air vessels, and bring about those desired changes in the character of the secretion which we recognise as the result of an improved condition of the surface from which it is poured out.

For the purpose of treating bronchitis, the inhalations we employ are either relaxant, detergent, or sedative. In chronic bronchitis and bronchiectasis, where the quantity of secretion is unusually great and often offensive, inhalation of carbolic acid is decidedly useful. In acute bronchitis, when the patient is cyanosed and suffering, turpentine gives excellent results, either from an inhaler, or by using a large sponge or piece of flannel wrung out of hot water and sprinkled freely with turpentine, and then inhaling the steam arising from it.

Dr. Orlebar, of the Victoria Park Hospital, says, "Tincture of benzoin in inhalation in the proportion of one drachm to the pint of water alleviates the cough, and is not without its good effects on the physical signs." "Carbolic acid, ten grains to the pint of water; excellent, having used it in every form of bronchitis, and with invariably good results." There are many other substances we may employ in this manner, suitable to varying conditions of the mucous membrane of the air passages; but in the early stages, plain steam is most grateful to the patient, and renders the viscid, scanty secretion of mucus more plentiful and easy to remove.

I have repeatedly mentioned the dangers of sedatives in cases of respiratory embarrassment from any cause whatever, but in chronic bronchitis, perhaps, more than in any other disease, is their use contra-indicated, or only admissible upon certain conditions—that they are combined with some other drug which shall counteract their respiratory depressant properties.

Let us take opium first. I have, in an earlier part of this paper, mentioned its physiological action upon the centres of respiration; I wish now to consider its effects upon other parts of the economy. Opium interferes with tissue change. Opium restricts, nay, almost entirely stops that function of the liver connected with the metamorphosis of the peptones brought direct to it through the portal circulation. As peptones they would fail to build up the tissues. They must be rendered insoluble by the liver, and elaborated into the albumin of the liquor sanguinis, or passed into bile acids

or urine solids. Albuminuria is not unfrequently due to the passage of peptones unchanged into the circulation, and is free from the dangers which we attribute to the presence of this substance in the urine. In a mild form it is often found after a hearty meal, when the excess of peptones is passed out of the body without undergoing further elaboration. If this essential element in tissue regeneration is absent, or present in unduly small proportions, the inevitable consequence is, that in time the system wastes, but in chronic bronchitis the muscular part of the body to which we are most indebted for the maintenance of life is comprised in the muscles of respiration, ordinary and extraordinary, and the cardiac muscle. Should any of these fail for want of nourishment the effects are soon noticeable; and most of all are we interested in the diaphragm and heart. In this then lies an additional danger in the use, especially the continued use of opium, a danger increasing ten-fold when any gouty condition co-exists with the bronchitis. We must never forget the elaborating function of the liver and the eliminating function of the kidneys, both of which are most seriously interfered with by opium. Bromide of potassium is also contra-indicated on account of the potash being a muscle poison, depressing the heart and diaphragm too much. If the indication for a sedative be marked, bromide of ammonium must be employed. Choral hydrate is perhaps the most dangerous, its depression affects respiration and circulation. There is one important point to remember about this drug, although without doubt it is the most useful hypnotic we possess when vascular tension is high and pain is great (I refer now to its ordinary use)—viz., the warning of Sir Crichton Browne, who says: "The energy of the action of chloral, as measured by its minimum fatal dose, is in proportion to the development of the cerebral hemispheres. In micro-cephalic idiots again, I have noticed that a proportionately larger dose of chloral is requisite to induce its physiological effects than in persons with fully developed brains." This must be borne in mind when prescribing the drug, and our knowledge of its danger in highly intellectual patients will guide us as to the dose to be employed. It further throws a light upon some cases of fatal poisoning with comparatively small doses of chloral.

Another property of chloral is its power of reducing the temperature of the body. This is due to the dilatation of the cutaneous capillaries—the heat losing area. This effect, together with the reduced activity of the circulation, and consequent impaired chemical interchanges, makes it a most dangerous drug to use in chronic bronchitis, when, owing to the slow oxidising processes, the body temperature tends to fall. The amount of oxygen in the blood of such patients is not sufficiently large to admit of those rapid and incessant chemical changes on which the body temperature is almost entirely dependent. In one case of poisoning by chloral recorded by Dr. Levinstein, six drachms having been taken, the temperature fell to 92°. Belladonna on the other hand raises the body temperature, and its administration in cases of alcoholic, opium, chloral, and aconite poisoning, in which we meet with extremely low temperatures, and in the collapse of burns, is strongly advocated; for by it we excite the acts of circulation and respiration which are so greatly depressed.

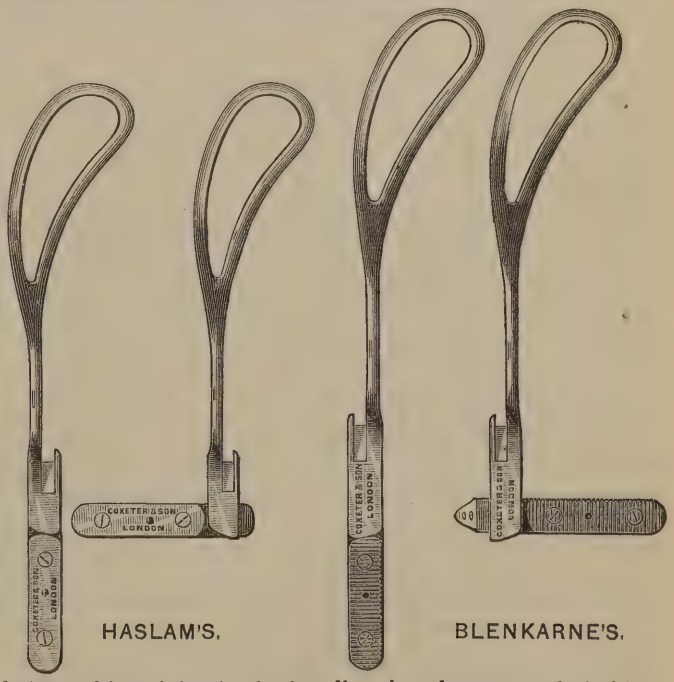
This short review of the additional properties of some of the respiratory depressants will not fail, I trust, to emphasise the grave responsibility attached to their administration in severe respiratory embarrassment. When the blood is charged with excess of carbonic acid, or is deficient in oxygen, the excitability of the discharging centres of respiration is aroused, and it is upon the response of the auxiliary respiratory muscles thus called into action that the danger is overcome, and the blood sufficiently aërated to be consistent with life. Now, in chronic bronchitic patients, this condition of the blood is more or less persistent; but the centre accommodates itself to the changed order of things, and the body generally shows evident signs of the change in venous engorgement, which is marked in the cerebral vessels, and results in the impairment of the mental processes, which become slow or defective, the mind is clouded yet irritable, indications pointing to an ill-nourished brain from the impure state of the blood. This is the condition best suited for the dangerous effects of sedatives to show themselves in their most aggravated forms, or for small doses to produce results attained only by much larger doses, under different circumstances.

(*To be continued.*)

AN IMPROVED MIDWIFERY FORCEPS.

By W. L'Heureux Blenkarne, L.S.A., M.R.C.S.

Although of the various shapes and sizes of midwifery forceps it may be said that their "name is legion," very little, if anything, has been done to make the long forceps a less cumbrous and unwieldy instrument, especially as regards the adjustment of its upper (or anterior) blade. There are, indeed, Dr. Haslam's forceps (*vide* illustration), in which the upper blade can be shortened during adaptation by there



being a hinge-joint in the handle; but, however admirable the general construction of these forceps may be, they are absolutely useless to those practitioners who (like myself) "put on" the lower blade first, as the "lock" of the lower blade is posterior—*i.e.*, the lower blade itself is anterior, thus making it utterly impossible to adjust the upper blade secondarily (at any rate without a great risk of damaging the rectum). Then again, the handle of Dr. Haslam's forceps

is made to bend backwards towards the perinæum, where it is in the way.

Now in the forceps which I have invented (*vide* illustration, which represents the upper blade of each of the said forceps) the handle is arranged to bend forwards towards the pubis, where it is not only not in the way, but, on the contrary, when bent, it forms a good "grasp" for the hand when adjusting it on the fœtal head. With these forceps, although they are slightly longer than "Simpson's long" (Dr. Haslam's being about an inch and a quarter shorter than Simpson's), the adjustment of the upper blade is not only simplified as regards the obstetrician, but (and this is a most important gain) *all necessity for moving the patient to the edge of the bed is avoided*, there being no handle to get in the way of the mattress; *in fact, it is as easy to put on these forceps as it is an ordinary pair of short forceps.*

The beautifully clear and exact engraving which accompanies this article is taken from a photograph, the scale being three inches to the foot. The general design of the forceps may be described as Barnes' forceps with Simpson's handles, the steel surface of the handle of the upper blade being slightly corrugated. My design and instructions have been most painstakingly carried out by Messrs. Coxeter and Son, from whom the forceps may be obtained, and I feel sure that any practitioner who invests in a pair will not be disappointed in the simplification I have hereby effected in thus doing away with that "bugbear" of many obstetricians—"putting on the upper blade."

SOME PRACTICAL POINTS REGARDING THE USE AND APPLICATION OF ORTHOPÆDIC INSTRUMENTS.

By NOBLE SMITH,
SURGEON TO ALL SAINTS' CHILDREN'S HOSPITAL, LONDON.

EVERY surgeon who deals with orthopædic cases certainly should master the mechanical details of construction of the apparatus which he intends to use, if he wishes to command success. I never send a patient to the instrument maker, but as a rule take the measurements myself and give my directions as to carrying out the apparatus personally. This plan saves the patient an immense deal of trouble and expense, and moreover is, I believe, the only way in which orthopædic surgery can be practised satisfactorily. Then as regards "fitting on" and alterations. It should be a rule of practice that an instrument is never to be considered as an apparatus which is to act by itself. It is a *means of treatment* by which the surgeon, as in the case of using splints for a fractured leg, can treat his patient. With this view the steel, or whatever metal is used, should be alterable to the fullest extent by the surgeon himself. Steel is the lightest material which in the majority of cases we can use consistently with strength and elasticity, and this metal can now be tempered so accurately, that while it does not bend by fair usage by the patient, yet it can be altered in shape by the surgeon by means of wrenches. In some cases aluminium can be used, but for the necessary stability it has to be made so thick that very little economy of weight is effected, and the bulk is objectionable. Aluminium can always be bent to a certain extent by the surgeon, but it will not bear the amount of alteration which can be effected with well tempered steel. If instruments are made upon this principle they can as a rule be finished off at first ready for the surgeon to apply, because the fitting can be done by him with the wrenches before referred to. This fitting and the subsequent alterations are essentially matters for the surgeon to attend to. The requirements of the case are before him, his knowledge of the objects to be attained, the manner in which they can be attained, the anatomical difficulties to be encountered, and the degree to which the parts will bear coercion, are purely surgical matters, and can only be acquired imperfectly by a pure mechanician.

By practising in this manner hardly a day passes but we may be able to simplify an apparatus or add to its efficiency. I will now proceed to describe an instance for the application of these principles. Let us take a case of talipes equinus, in which the muscles of the tendo Achillis are permanently contracted but otherwise healthy, and the anterior muscles of the leg paralysed, as in the case of which Fig. 1 is a drawing. Here division of the tendo Achillis is demanded, and whether we reduce the deformity at once, or in two or three efforts, or more slowly as some surgeons advocate, in any case the necessary temporary support of the part can be effected by means of a simple padded iron splint, which can be bent by the surgeon to the required angle. Fig. 2 represents the same foot as in Fig. 1 after division of the tendo Achillis, and with the iron splint applied. The bandage is displaced from the centre of the foot to show the splint and padding. The splint is usually covered with linen or other material. When the union of the tendon is sufficiently firm for the patient to begin to walk again, a less simple apparatus is required, and for this purpose, it is necessary to have a steel support attached to the boot upon the side to which there is any disposition for the foot to turn, and a T strap upon the opposite side. Thus, if there should be a disposition to varus the steel is placed at the inner side, and if the inclination is to a valgus position the steel should be upon the outer side, the T strap checking the inclination. It has been considered necessary to have a rack-joint to the steel support opposite the ankle, which can be gradually moved by a key and the foot improved in position. A rack-joint is an expensive one; moreover, when the patient has walked about for a time and requires more freedom of movement in the ankle, a new instrument has to be made with a limited movement to the joint, and with a back-stop to prevent the foot from dropping into

Fig 1

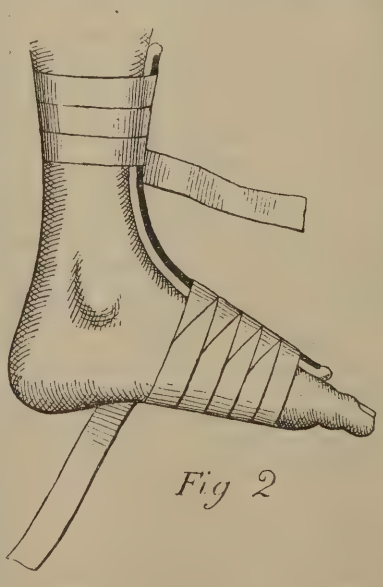


Fig 2

its former position, for it must be remembered that the anterior muscles are paralysed, and that artificial means are necessary to keep the foot at a right angle. Much expense is thus incurred, and some degree of trouble to the patient, from the several alterations. To simplify these proceedings I have devised the following plan.

Fig 3.

Fig. 4.

The ankle joint of the instrument is made as it will be required when the patient can walk with some freedom of movement, that is, with a back stop joint (this he will always require so long as the anterior muscles are paralysed), and with a limited degree of forward movement. The joint is then fixed by means of a steel peg piercing the two pieces of metal, A in Fig. 4. The dotted lines show the outline of the lower part of the instrument which fits into the upper part. The first cost of the instrument is less than one with a rack joint. The peg projects and can be easily removed with pincers when the time arrives for so doing. The instrument is thus altered in construction at once when necessary, at no extra expense, one instrument taking the place of two. When the patient has so far recovered strength in the tendo Achillis that free flexion of the foot may be safely allowed, the front partial limit of movement can be filed down in a few minutes, and therefore the apparatus need not be kept inconveniently long by the maker for this alteration. The dotted lines in Fig. 4 also show the application to this instrument of the plan by which the upper part can be separated from the lower, by simply bending the instrument until the two parts are at a right angle to one another, a position which cannot occur when the apparatus is in use. The chief object of applying this kind of joint (which is not new) to this instrument is again one of economy and convenience.

When a joint is a permanent one—*i.e.*, not detachable—one of two plans must be followed for fixation to the sole of the boot. Either that must be a fixture, or there must be a box socket in the boot for the instrument to go in and out of. In the latter case the parts soon wear into a loose condition, while when the instrument is permanently fixed into the boot, it can only be worn with one pair of boots, and one set must be made for each pair of boots in use by the patient. By having the detachable joint as shown in Fig. 4, each pair of boots which the patient is required to wear has only to have the lower part attached, and the upper portion will do for every occasion. This may seem a small matter, but the absolutely necessary expense and trouble of these cases are so great, that whenever we can save the patient unnecessary cost, I think it is our duty to do so.

In conclusion of this paper, which is intended to be *suggestive* of the *principles* which I think should guide the orthopædic surgeon, I would add that a paper upon the rules which I suggest should guide orthopædic surgeons in their practice, was contributed by me to the last International Medical Congress, held at Washington, and is published in the *Transactions* of that Congress.

ON SOME OF THE MORE COMMON DISEASES OF THE BREAST, WITH THEIR DIAGNOSIS AND TREATMENT.[1]

By Edward Bellamy, F.R.C.S.,
surgeon to charing-cross hospital.

I have taken the liberty of slightly altering the subject as announced in our syllabus, inasmuch as "Diseases of the Breast" might well occupy us for some indefinite period. I therefore take this afternoon such cases as most frequently are under the notice of the general practitioners, and should time permit, go a little further. Too little is made of small ailments, in surgery as well as in medicine. Let me first take the cases most likely to be met with, I would say, in anatomical sequence, and possibly outside the hospital clinique—at least, such cases as would be admitted.

Neuralgia of the Breast, or *Mastodynia*.—This is a condition, I think, not made enough of in the ordinary text-books; it is a serious one, and often gives rise to most anomalous symptoms, which may be very masked. Little is known of its pathology. Functional activity of the sexual organs seems to be its chief cause; also hysteria, uterine trouble, anæmia, or habitual constipation; locally, possibly injury, or wearing tight corsets. It is not always that we can detect any structural change in the breast or its surroundings by palpation (Sir A. Cooper's "Irritable Tumour of Breast"), and in the event of our being able to do so, the symptoms are much the same, as before stated. On touching or handling the region, the pain is severe, not confined to the breast, but radiating over the shoulder, down the arm, back, and loins, possibly. A consideration of the connection of the nerves supplying the breast and the plexuses will readily account for this. Patients suffering acutely will shrink away instinctively on the approach of the surgeon's hand, much in the same way as a patient with rectal fissure instinctively dreads examination. The patient cannot lie on the affected side; the weight of the gland seems intolerable; stays and bedclothes may be unable to be borne; nausea is frequent or persistent; the symptoms are always aggravated before or during the catamenia. If we can *feel* anything on breast palpation, it is generally in the form of some small, movable, sensitive nodules, which cause great alarm to the patient or doctor, may be, from the idea that she has a cancer—a common conclusion in every female mind if anything is wrong with the breast. I need hardly say that in such a case there is no enlargement of the axillary glands—an important point in diagnosis. I have never met with these symptoms *before* actual puberty, though perhaps on its immediate verge, *i.e.*, when the gland is *becoming* active.

Treatment.—A nodule, if detected and persistently painful, had better be removed, but there may remain pain

[1] Abstract of Post-Graduate Lecture at Charing-Cross Hospital, January 25th, 1889.

in the cicatrix, accounted for by neuritis. Cases purely hysterical require, of course, moral and mental treatment. Attention must be given to any uterine displacement, which should be reduced, and the condition of the rectum carefully attended to, *e.g.*, piles, scyballa, fistula, fissure. Locally, I have found the glyceride of belladonna, or the emp. belladonna, of great use, at the same time giving full doses of quinine and bromide internally. Change of air and scene, in single women with certain tendencies; marriage, if possible, and moral restraint.

Diseases of the Nipple and Areola.—True eczema is by far the most common. It is similar to eczema in any other part of the body, most frequent during suckling, sometimes associated with scabies, and most obstinate. Any possible source of irritation must be investigated, and the urine examined on the suspicion of gout—gouty eczema, in fact.

Our Treatment is local and constitutional. I have found belladonna and lanolin, or glycerine, very useful; also lotions of nitrate of silver or lead, or dusting subnitrate of bismuth over the part, or boracic acid, and the *primæ viæ* attention to diet, and, if gouty, appropriate remedies.

Paget's Disease of the Nipple.—I mention this here as it is generally called an "eczema." At all events it most closely resembles it in appearance, but is a precursor of cancer. According to Paget the cancer (carcinoma) is developed in the gland from one to three years after its appearance. We must be most careful in our attempts at the true diagnosis. The areola is "like the surface in a very acute eczema." When ulceration takes place it ends in destruction of the nipple. The ulcer is indurated at its base. No treatment is of any use. Paget suggests that "it is advisable to anticipate the development of cancer by removal of the gland when it is met with in women about the age when cancer is likely to develop, and especially where there is strong hereditary tendency" (Beck).

Cracked Nipples.—There is no doubt the subject of cracked nipples and threatening inflammation of the mamma is a great deal overlooked. The troublesome cracks generally appear in women who, after each time of suckling, expose the breast, or fail to cleanse it of the irritating saliva of the infant or the putrifying milk. In young women with a first suckling there is generally a great intumescence of the nipple; it is hyperinjected and florid; in shape it often seems to spread out, mushroom-like, and is very tense. In women who have borne children and suckled them the nipple is more usually conical, but still prone to cracks, or ulcers; the cracks, after all, are merely confined or constricted ulcers, very much of the same condition as met with in the rectum. They may be traumatic—*i.e.*, caused by friction or over-sucking—or it may be the result of the fatigue caused by suckling, rendering it necessary to discontinue it. This condition of things not unfrequently leads to abscess, which is generally quite local and confined to the areola, but it may pass on to mammary abscess.

Treatment.—Utter cleanliness is clearly the first thing. The application of a concentrated solution of boracic acid is of great value. An india-rubber nipple-shield should be used. I have found the best application, by far, in glyceride of tannin—this should be applied immediately *after* suckling, and then the parts protected till the next occasion by a Wansborough's leaden nipple-shield. Mind to have several in use, and to thoroughly purify them by keeping them immersed in some antiseptic solution. A good suggestion is to strap the threatening gland *firmly* on the second day after confinement, and in a few days to remove it, and use an inunction of ext. of belladonna and iodide of potash, giving iodide at the same time internally.

New growths in the nipple and areola are very rare. Epithelioma has been met with, and cases of atheroma in the areola have been recorded clearly developed in its glands.

Wounds.—I need hardly detain you with wounds. Of course they must be treated as wounds in every other part of the body. We must carefully bear in mind the undoubted fact that breast injuries, however apparently insignificant, "light up" malignancy, and we must be ever on the look out for this contingency. I speak more particularly of blows. Cuts or stabs must be treated on ordinary principles, but here again they may be factors in more serious after-conditions, as every hospital surgeon can call to mind and prove.

Acute Engorgement of Mamma.—I cannot say I have ever seen these cases, at any rate with any certainty in diagnosis. We must be on our guard should such cases come before us, and be prepared to differentiate them from others more common—*e.g.*, hypertrophy. As described by Ledentu and Verneuil,[1] it would appear to be a rapid swelling of the breast, with induration, occurring in oldish women, and recurring after some weeks or months, possibly associated with arthritis (gouty).

Erysipelas calls for but few remarks. Its diagnosis is well nigh obvious, and it must be treated on general principles. As a primary affection it is rare, and its streptococcus propagates by preference along the lymphatics; but in the advanced condition it permeates the finest interspaces, giving rise to superficial or deep lymphangitis, which is slight or severe. In the event of action going on, suppuration is imminent, and poulticing and antiseptics necessary. When abscess has formed it must be treated according to proper principles, but we must bear in mind the specific nature of the pus and *débris*. According to Dr. Park, a good local application is made of a combination of naphthalin, ichthyol, and lanolin, or possibly ordinary white paint, with iron internally. This naturally leads me on to the consideration of

Acute Inflammatory Affections (acute mastitis, mammary abscess, milk abscess).—This condition is sometimes met with in young adolescents of both sexes, but naturally more common in the female. The diagnosis is easy, and it may be said to be *the* characteristic breast disease of the unimpregnated female, or, may be, delicate and anæmic male, between sixteen and twenty. The mammæ often give trouble at puberty. Suppuration often occurs.

By far the most common acute inflammation is that associated with lactation and pregnancy, and most frequently occurs in those who nurse their own children or in primaparæ, generally about the first month, and in anæmic patients, poorly nourished, and with prolonged suckling. Of course any confinement is a predisposition. It is said to be more common on the left than the right, and is generally retro-mammary.

Causes of Lacteal Engorgement.—Eczema may be a cause, but the abscess due to it is invariably subcutaneous, and we must remember that scabies is not an uncommon cause, the breast being a seat of predilection. Cracked nipples are often a cause, the inflammatory products being transmitted by the operation of the lymphatics. I may

[1] Quoted by Park, in "American System of Gynæcology and Obstetrics," 1888.

mention that traumatic abscess is invariably situated in the bulk of the gland.

Chief Symptoms of a Typical Case.—"There is 'stiffness' and soreness in the lower region of the mamma, usually about three weeks after confinement, rigor, generally fever-high temperature, hot skin, quick pulse, loaded tongue, whilst thirst and headache are often present. The inflamed lobules become hard and knotty, while the breast throbs and feels as if ponderously heavy. The affected lobules soon run together into one hard swelling, over which the skin becomes tense and somewhat livid. If suppuration occurs there is often another rigor, with perspiration, while the skin over the mamma becomes œdematous and splits on pressure" (Banks).

Treatment.—Physiological rest. The child should not be allowed to suck, and this applies to both mammæ. The milk should be drawn off with the breast pump. In robust women, depletion, etc.; tonics in the anæmic, etc. Locally: slinging, fomentations, belladonna, and glycerine. Abscess impending, poultices. Chronic indurations may remain, and it is very important that all remains of inflammation be removed, as is well known carcinoma is not an infrequent result of mastitis, leaving some indurated lobes or lobules. I have on several occasions removed the entire gland, or what remained of it, when riddled with old sinuses, on this principle. I have seen several cases where neglect has clearly set up malignancy.

Chronic Lobular Inflammation.—This is certainly a condition which may give rise to the greatest difficulty in diagnosis, from the fact of its being so often mistaken for malignancy: I allude to the condition of hardened, detached lobules in the breast, generally of slow progress, not always attended with pain actually, but always with uneasiness, and giving rise to great anxiety. We may find, possibly, a simple nodule greatly indurated, and even to the most skilful hand, closely simulates carcinoma. However, the integument is *non*-adherent, and does not, when "pinched up," to use the felicitous expression of Banks, look like "pig skin." Again, we generally find more than one lobule involved, possibly the whole mamma greatly indurated, whilst there is no invasion of the lymphatics or glands. The catamenia seriously affect the condition—a point in diagnosis. As regards the benign tumours, I cannot think there is much to fear: our present case is retrograde (*vide infra*). This condition is often associated with neuralgia (*vide supra*); and here the pain shows itself—generally neurotic, of course, and certainly adding a great deal to our difficulties in eliminating cancer in our diagnosis. The mere handling on the part of the patient is sufficient to elaborate the symptoms to such an extent that one may be justified in puncture or incision. The result, of course, determines our action.

Treatment.—Here our treatment is a plus element in diagnosis. Tonics, etc., attention to general health, investigation of uterine troubles, local application of belladonna, will soon clear up any difficulty, and eliminate true growths from the category. [The lecturer here gave the normal anatomy of the fasciæ of the mammary region, and their influence on the definition and progress of abscess, referring his hearers to his special lectures on the matter.]

Abscess.—Its diagnosis certain, it must be opened at once—strictly antiseptically, spray used for choice, the swelling carefully washed with carbolic soap, and afterwards gently sponged with one in forty carbolic lotion. The precise spot being determined on, a long thin bistoury should be boldly pushed in, radially with the areola, and the incision so freely made as to allow of the speedy evacuation of the pus. The purified finger is next gently passed into the wound, and the entire abscess sac explored. A drainage tube must now be introduced and secured, and the usual antiseptic dressing applied. My experience is that a slip of protective to prevent "sticking," and a large pad of salicylic wool over all, is quite sufficient.

Chronic Abscess.—This has always been, and always will be, a "crux" in diagnosis at first, and may almost occupy a place by itself, as apart from acute inflammation in suppuration, being often mistaken for neoplasiæ, especially carcinoma; in fact, its history, clinically, appears to be identical—the oft-quoted "retraction" of the nipple, as pathognomonic of cancer, being almost invariably present. I well remember being present when one of the first diagnosticians of the day was deliberating as to a case which he had no doubt was cancer; and proceeding to remove the tumour, making his lower incision first and boldly into the mass, the spectators—myself among them—were speedily convinced that a hard, tense, chronic abscess had been opened. All the better for the patient! Yet, clinically, this case presented every symptom and feature of malignancy. I never saw the case after, but I have no doubt the breasts became "noduled" with sinuses (it was before antiseptics), and was ultimately excised, as a *locale* or "foyer" of cancer.

(*To be continued.*)

LARGE ABDOMINAL HERNIA, WITH ADHESION OF THE CONTENTS TO THE WALL OF THE SAC—CURED BY THE OPERATION OF INVERTING THE SAC WITHOUT OPENING IT, AND OF STITCHING THE RECTI MUSCLES ACCURATELY TOGETHER IN THE MEDIAN LINE.

Under the care of William Alexander, F.R.C.S.,

visiting surgeon to the liverpool workhouse hospital.

[Report and Sketches by A. Blackwood, M.D., Senior Resident Medical Officer.]

S. B——, æt. twenty-four years, was admitted into the hospital on June 15th, 1888. About two years previous to admission, abdominal section had been performed on this patient for double pyosalpinx. On that occasion, she made a good recovery, and was discharged from the hospital, the wound being soundly united. The patient was a stout, healthy looking young woman. She stated that her health was good, but she had come to the hospital in order to "have something done for a tumour," which, on examination, was found to be an abdominal hernia. Regarding its formation, she said, that about twelve months after the performance of the operation already referred to, she observed a "small lump" at the lower extremity of the cicatrix in the abdominal wall. It gradually increased in size, and she endeavoured to repress it by means of tight corsets, etc., but failed. Eventually, it had increased to such an extent, and caused her so much discomfort, that she determined to come to the hospital in order to obtain relief. The hernia was situated in the middle line of the abdomen, between the umbilicus and pubes. Its shape was an irregular oval, and it was slightly pendulous when the patient stood upright. At its base, on a level with the surface of

the abdominal wall, it measured seven inches in circumference, and, following its outline from above downwards, it measured twelve inches. Occupying the centre of its upper half, was a vertical cicatrix, about three and a half inches in

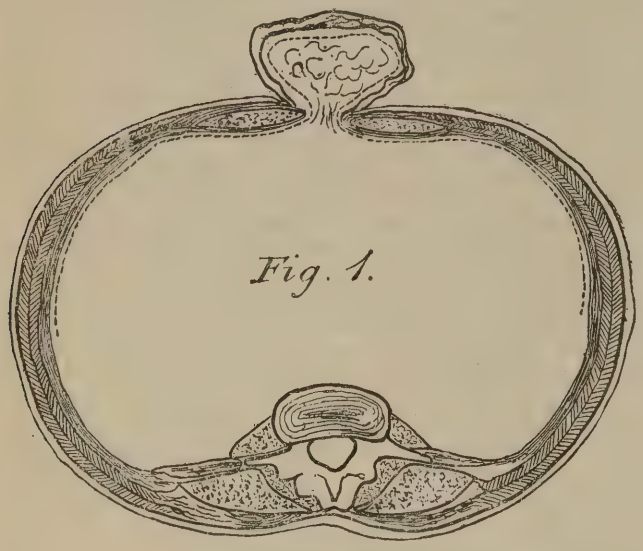


Fig. 1.—Before Operation.

Diagram showing space between the recti musles, and peritoneum and intestines protruding. The dotted line is intended to represent the peritoneum.

length, and half an inch in width. The hernia was soft and elastic, and became prominent and tense when the patient coughed. After the reduction of the hernia—which could easily be done by manipulation—the boundaries of the aperture, through which the intestines had passed, could easily be recognised by the finger.

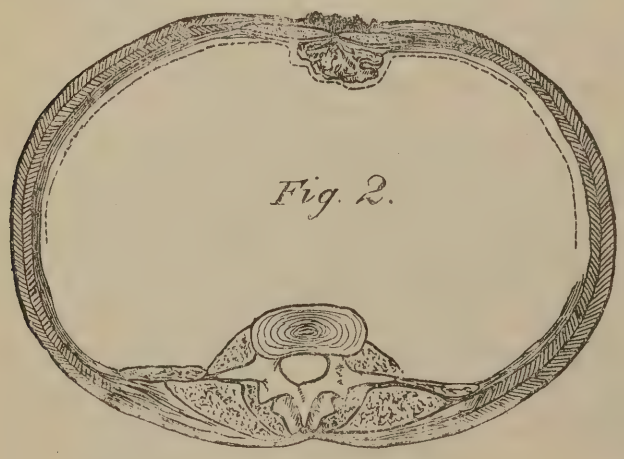


Fig. 2.—After Operation.

Showing recti muscles in close apposition; and between them and the now *inverted* peritoneum, a mass of cicatricial tissue. The dotted line is intended to represent the peritoneum.

The patient readily consented to operation, which was accordingly performed in the following manner:—She was placed under the influence of chloroform, and an incision about three inches in length was made over the sac and including part of the old cicatrix. The skin and subcutaneous tissues having been cut through, the underlying structures were successively divided on a director, until the peritoneal sac was reached. The contents and sac having been returned into the abdominal cavity, it was found that the aperture was formed by the "falling apart" of the recti muscles, their inner edges being the lateral boundaries of

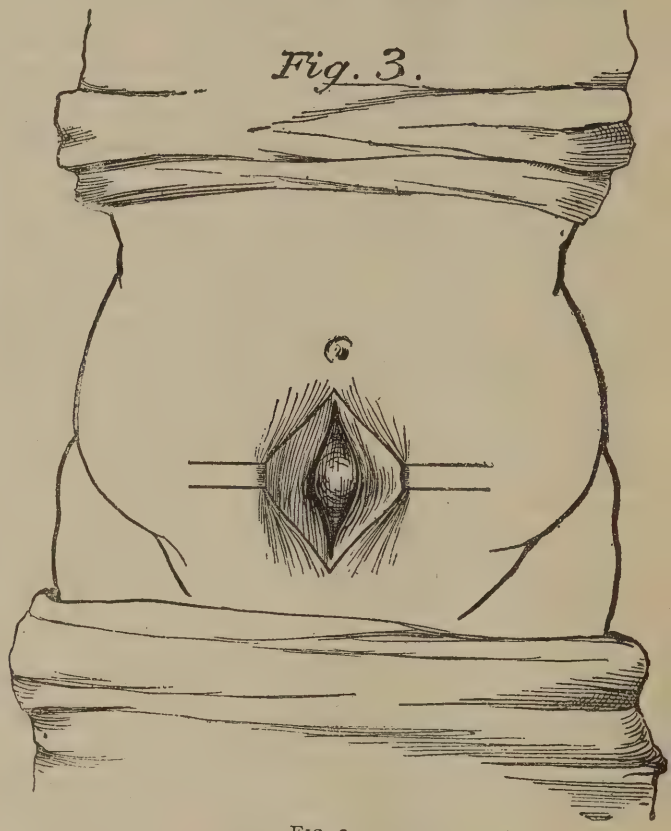


Fig. 3.

Skin and subjacent tissues held aside by retractors, showing the space between the recti muscles, with the peritoneum bulging into it. It represents the stage of the operation in which the hernia and sac have been returned into the abdominal cavity, and the recti muscles have been dissected from the neighbouring structures.

the space. The space was oval in shape, its vertical diameter being about two inches in length, and its transverse diameter about one inch. The inner edge and a portion of each muscle were then carefully freed from the neighbouring structures, and brought together, being secured in this position by sutures of silk-worm gut. Drainage of the deeper cavity—that behind the recti muscles—was provided by inserting a rubber tube between the muscles, at the lower extremity of the wound. The interior of the more superficial cavity was "dusted" with iodoform, and carefully packed with antiseptic gauze, the skin wound not being sutured. Antiseptic pads were laid on outside; these were kept in position by strapping, and the whole secured by a firmly-applied binder. During the operation, and at the subsequent dressings, antiseptic precautions were adopted.

Two days after the operation, pus began to discharge in considerable quantity from the deeper cavity. The wound was dressed daily, at first twice, so long as the discharge was profuse, but afterwards only once. On each occasion the

cavities were washed with a solution of perchloride of mercury (1-2000). The discharge, though decreasing in quantity till it ceased, continued for a considerable period; and the deeper cavity, which was at first of considerable size, gradually filled up, and finally closed. A portion of the skin sloughed, and was removed. The more superficial

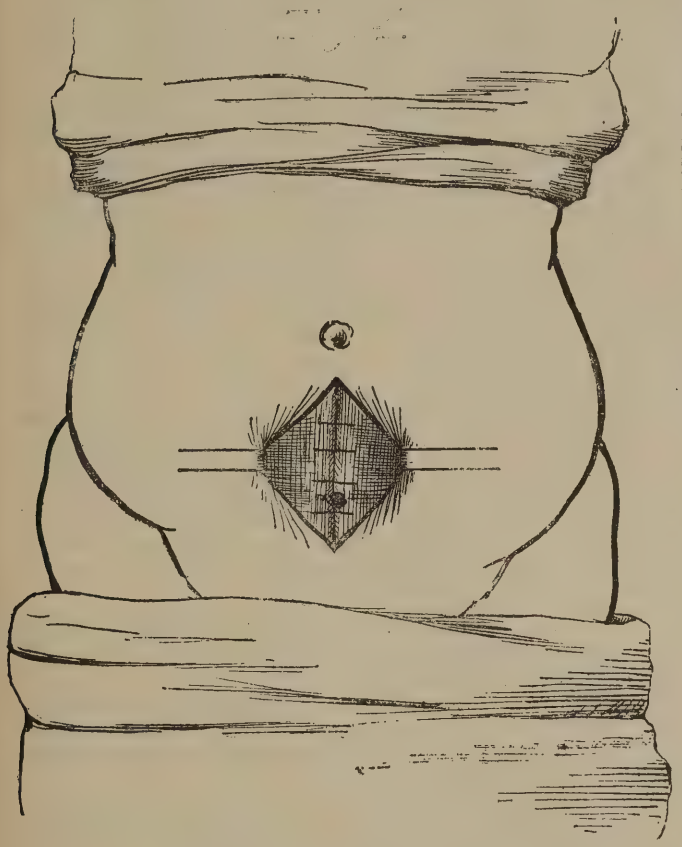


Fig. 4.

Showing the edge of the recti muscles brought together and sutured. The drainage tube is inserted between the third and fourth sutures, counting downwards.

cavity gradually "filled in" from the circumference towards the centre, a very firm cicatrix being the result. An abdominal belt was ordered for the patient, and she was discharged from hospital on September 10th, the wound being firmly united, and presenting a slightly concave appearance, a marked contrast when compared with the immense mass which protruded from the abdominal wall when the patient was admitted.

Remarks.—The contents of the sac in this case were intestinal, as the distended small intestines could be readily felt under the skin. The adhesions seemed so general that none of the intestines could be pushed out of the sac into the abdomen without palpably taking a part of the wall of the sac with them. Therefore the operation of opening the sac and freeing the adhesions would have been in this case a difficult, and, in proportion to the difficulty, a dangerous operation. Although the patient, a vigorous girl, was willing to run any risk to be rid of what to her was a most distressing condition, yet, from a surgical point of view, it would have been a grave mistake to perform a major operation for what was only an incumbrance. That operations of expediency should only be undertaken when safe, is not a bad rule for surgeons to follow. The sac was easily inverted, and the fingers, pushed into the inverted sac, could easily explore all the interior of the abdomen within their reach. The operation consisted in carefully dissecting the skin from the sac, and inverting with the fingers the denuded sac, in the same way that had often been done before the denudation was carried out. The recti muscles were then brought together in the middle line, and stitched together over the inverted sac. A drainage-tube was passed between the recti at one point to drain the sac, and then the skin was brought into position.

The operation answered all the expectations that were formed of its safety, ease of performance, and utility, and can be recommended as suitable for all similar cases. There are cases of hernia where the sac and its contents are capable of inversion, where adhesions are extensive, and their removal consequently difficult and dangerous, and where the aperture is such that it can be closed by the approximation of muscular tissues. Ventral herniæ occurring after operations will most frequently fulfil all the indications. In reducible hernia of this class, it is a question whether the inversion of the sac would not be preferable to the ligature of the neck of the sac, or to the cutting off of the sac and re-stitching of the margins of the opening.

AN ENQUIRY INTO THE CURRENT THEORIES OF THE CAUSES AND NATURE OF ACUTE RHEUMATISM, AND THE TREATMENT GENERALLY ADOPTED FOR ITS CURE.

By Alexander Harkin, M.D., F.R.C.S.,

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(*Continued from page* 82.)

That in any discussion on a controversial subject, such as the salicyl treatment of acute rheumatism, an appeal would be made to the numerical method, "which but to guess a 'Louis' made immortal," was a very natural conclusion, and that hospital statistics, as superior in the matter of numbers, careful tabulation, and uniformity of treatment to private returns, should be utilised for the purpose was as correctly assumed; and hence we have had presented to us, chiefly in the columns of the *Lancet*, at various times, most valuable contributions from eminent London hospital physicians. But, important as are the numerical method and the law of averages, in their application to clinical medicine, we cannot regard their teaching as the expression of pathological laws, being themselves subject to perpetual exceptions, and, as a learned writer already referred to says, "They are at best but generalised expressions of degrees of frequency."[1] Dr. Sibson, formerly of St. Mary's Hospital, London, in his address in medicine at the Newcastle-on-Tyne meeting of the British Medical Association, when referring to his treatment of a number of rheumatic and gouty patients, emphasises this weak point in the numerical method thus: "In the examination of those cases, I shall avoid all comparison of them with the group of cases of these diseases observed by other physicians, and those previously treated by myself in the wards of the hospital. How can

[1] Dr. Walsh's address in medicine.

you compare one set of cases with another? Each patient has his own character, and his disease presents its own peculiar feature; cases unduly severe or unwontedly mild are apt to come in groups extending over a long period, and the strict comparison of one series of cases with another becomes therefore impossible.[1]" But it was perfectly legitimate to accumulate a mass of facts gathered by independent observers, and arising under similar conditions, such as was presented to the Clinical Society of London by the late Dr. Headlam Greenhow, and the leading hospital physicians, at the discussion in the Royal Medical Society, and for others to entertain the conviction that if ever hospital statistics could settle the question then presented for debate, the occasion and the men were there to accomplish it. That these elaborate returns, supplemented by the comments and conclusions of their compilers have succeeded to any apparent extent in so doing is however too much to admit.

The essayists as a whole, excluding the president of the Clinical Society, although in their formal conclusion at the end of their communications they maintained the powerlessness for good of the salicyl compounds in the prevention or the relief of the most lethal symptoms, yet expressed their approval of its use, their firm conviction of the curative agency of the drug. This inconsistent proceeding appears to an outside observer, in the quietude of his study, as a remarkable characteristic of the whole discussion in the Royal Medical Society, for, while nowhere perhaps could there be found men more free from conscious prejudice or bias, there was in the statement of almost every speaker evidence of a tendency to protect the character of the drug, as a mother would defend her offspring, however ungainly, or, as if actuated by the spirit of the well-known districh—

> Be, to its fault, a little blind!
> Be, to its virtues, very kind!

This delicate handling of the subject was plainly manifested in the attempt to explain away the frequent recurrence of relapses, so characteristic of the salicyl treatment of acute rheumatism, and the preference of ideas to facts when the latter told against some of the assumed gifts or properties of the fashionable remedy. Thus while Dr. Sidney Coupland did not question the truth of the fact that relapses are vastly increased under this treatment, he advanced the specious explanation that they may be promoted by a too early transition from a milk to a solid dietary, or by a too early getting out of bed, by change of air, or abeyance of rest, even when using the salicylates, etc.; while in the same debate the latter, in trying to account for the protracted recovery and feeble condition of the convalescents, complains that the salicylate patients are now kept far longer than formerly on low diet, and confined to bed after the subsidence of the disease *for fear of relapses!* If Dr. Fagge's complaint be well founded, what becomes of Dr. Sidney Coupland's excuse; surely if low diet and rest in bed are practiced unduly, with the expressed object of preventing relapses, how can the neglect of these precautions be fairly charged with their production; and surely these provocatives of relapse under the salicyl treatment are just as operative under every other plan, even under the nihilistic treatment. But the discussion at the Royal Medical Society is full of such contradictions.

Again, the reluctance to accept hard facts when opposed to preconceived ideas is well exemplified in the observations of the president himself, at the winding up of the debate. On that occasion he is reported to have said: "Turning now to another part of the subject, I myself do not—in spite of those most interesting, and of course accurate, tables which have been brought before us by Dr. Gilbart Smith—believe that the salicylates increase the frequency of heart disease. On the contrary, I quite coincide with the hope and and anticipation expressed by Dr. Fagge in the early part of the discussion, that when salicylates are brought to bear upon the fever in the first days of its existence, we shall see a notable diminution in the heart disease, for in my own experience it has been exceedingly rare to see heart disease springing up."[1] Here we have proof of reluctance to accept facts, when opposed to ideas, hopes, and anticipations, although the president's matured experience on a more recent occasion found vent in very impressive, cautionary terms, warning his hearers of the danger he had witnessed from the perfunctory administration of the antipyretic drug.

But the unwillingness to subordinate our convictions to the hard logic of facts was not confined to the members of the Royal Medical Society in conclave, as we find the editor of the *Lancet* testifying that, "in spite of the unfavourable conclusions which Dr. Headlam Greenhow felt compelled to draw from his elaborate and critical analysis of his series of cases, communicated to the Clinical Society, there is certainly no evidence that these remedies are losing ground in public favour, as they are being employed more than ever!"[2]

In spite! is the favourite expression of proofs adduced by most competent observers, credulity and practice go hand in hand, uninfluenced by such vulgar considerations as bare facts. Dr. Fagge himself confessed "that before he made these investigations—of which the results were before them—he was strongly biassed in favour of the medicine, but that the opinion was forced on him by his clinical experience, and that if his figures had even suggested a doubt on the mind, he would have candidly admitted it." Unconsciously to himself, however, the spirit of the "decided advocate" dominated his paper, and the skill of the pleader was well exhibited when treating of the incidence of cardiac affections and the influence of the drug; for he says, "although in 69 of 355 cases, auscultation revealed some change in the character of the heart sounds while the patient was in hospital, he could hardly find one in which there was reason to believe that *pericarditis* set in at a time when the action of the remedy was fully established. Almost all of them were cases in which at one period or another a systolic murmur was detected, and he believed that considerable doubt often hangs over the interpretation of such sounds." Now the incidence of pericarditis, which was paraded by Dr. Fagge, is comparatively of rare occurrence under ordinary treatment, even under that limited to rest in bed and blankets. For instance, Dr. Sibson, the advocate of this passive treatment of rheumarthritis, states that out of seventy-four patients treated in St. Mary's Hospital, only six suffered from pericarditis; while of the seventy-four, only one-fifth escaped from endocardiac inflammation. Then as to the interpretation of the cardiac sounds,

[1] *Medical Times and Gazette*, Aug. 13th, 1870, paper 187.

[1] It is notable that Dr. Gilbart Smith's field of observation comprised 1748, and the president's 90 altogether.

[2] *Lancet*, July 4th, 1882, p. 190.

and the doubt cast by Dr. Fagge on their importance, he is most fitly answered by Dr. Sidney Coupland, in his analysis of his eighty-four cases: he states that these bruits were present in a remarkably large number of cases, only twenty out of the whole in which they were not detected. I am not prepared to say that all of the apex murmurs were due to endocarditis, but I cannot differentiate them; and if in those cases where the murmur faded, and excluded from the category of organic change, there still remains a number largely in excess of the proportion usually noticed. Dr. Hilton Fagge's manner of dealing with the cardiac troubles of acute rheumatism reminds one of Boyle's remark: "These dialectic subtleties that the school men employ about physiological mysteries more declare the wit of him who uses them than increases the knowledge of sober lovers of truth."

It is much to be regretted that this important enquiry had not been conducted on a uniform basis; it was perhaps impossible in the nature of things, and under the circumstances, and the different constitution and internal arrangements of the larger hospitals, and the varied aspects from which the observers regarded the mode of enquiry. How could a uniformity of result be reasonably expected when even in the primary stage of the enquiry a different starting point was adopted: thus, Dr. Headlam Greenhow laid down the rule "that no patient should be put on treatment until he had been from twenty-four to thirty-six hours in the wards, and then only when it seemed clear that his illnesss was running an acute course. He wished to exclude such cases as would, independently of any medicine, improve rapidly after admission into hospital, and become convalescent in three or four days." He had thus sixty well-developed cases on which to try the efficacy of the drug; and after closely and carefully watching its effects in every case, he gave a decidedly hostile opinion as to its suitability for the cure of acute rheumatism. Dr. Donald Hood limited his investigations to cases occurring under thirty-five years; while Dr. Sydney Coupland returns comprised patients ranging from ten up to sixty years, and treated by salicylates from the day of admission to hospital. Some of the prominent speakers in the discussion took umbrage at Dr. Headlam Greenhow, because he had not the prevision or good taste to conduct the enquiries on the plan initiated nearly two years subsequently by the first speaker, adopted by the second, and approved of by the third; apparently while they could not question the accuracy of his statistics, because his mode of examination and its results told heavily against the value of the remedy in well marked cases.

After careful perusal of the discussion, and the formulated conclusions of each speaker, one may ask what has been the practical gain to the etiology or the pathology of the disease? absolutely nothing of importance. The reader of these numerous "vertical columns" of statistics, on which the structure of salicism so much depends, remains as unenlightened as ever on the fundamental principles of causation; while the gain to the therapy of the disorder amounts to this, that those portentous piles of statistics have indisputably proved, what has always been conceded, the anodyne and cooling properties of salicine; while they have, as firmly established, its powers for evil in trebling the tendency to relapses, its total impotence in prevention or cure of pericardial or endocardial inflammation, the cardinal element in the disease, its uselessness in hyperpyrexia, its lingering recoveries and anemic convalescence, not to mention the frequent occurrence of epistaxis referred to by other authorities. An excellent opportunity was lost for settling the burning question of the relative importance of the subjective symptoms of pain and pyrexia, and those "hidden processes," always present although not always recognised, till resulting in organic valvular impairment. Can it be reasonably expected that any substantial progress will be made in the treatment of disease, where there is no agreement as to its primary, its remote or proximate causes, when those so-called complications are regarded by one class of authorities and practitioners, such as Pfeuffer and Hueter, Graves and the present writer, as the primary lesions and the joint affections, the pleuritic, pericardial, meningeal, as the natural developments of the disease; by Bristow as part and parcel of the attack, who asserts "that the heart may be regarded as one of the joints, being as liable to suffer as any of them;" or with the followers of Davies, that the disease and the virus are concentrated in and near the neighbourhood of the joints, requiring only local counter-irritation for its removal and cure. Coming to some of the statistics, let us take, for example, table III. of Dr. Hilton Fagge, in the first column of which he triumphantly proves that 50 per cent. of his hospital patients get rid of these fever and articular pains within five days after the commencement of treatment—but "Qui Bono," the relief, if their pillows were haunted by what an American writer calls "the grim spectre of relapse," and if the shadow became reality in at least 36 per cent. of those semi-convalescents—the enemy returning in these cases with redoubled violence, as if to make up for his abrupt expulsion, and in several cases, in the same individual, asserting his supremacy again and again, even to the fifth and sixth time, leaving his victim pallid and exhausted after his final departure.

Perhaps none of these returns exhibit the relapsing power of this nostrum more clearly than those presented by Dr. Donald W. C. Hood, who gives the particulars of 350 cases treated without salicylate, and with only nineteen relapses, and also of 350 other cases treated with this drug, marked by sixty-six relapses, his conclusion being that the effects of the salicylates were unstable, as relapses among patients taking these medicines were vastly increased. Among the many remarkable items in the debate, we find that after only two orations of the ten hospital physicians had been delivered, the third speaker said that he was justified, without waiting for the eight other speakers, in assuming and announcing that in connection with some other returns forwarded to himself from provincial hospitals, that the matter had been practically settled in favour of his *protége*, and declared also that the evidence of these statistics was highly favourable to the salicylic treatment, and agreed with all that has been written by observers in all parts of the world; further he intimated that in the history of practical therapeutics, there is no more remarkable circumstance than the unanimity and rapidity with which the salicylic treatment had replaced all other methods of treating acute rheumatism.

These observations, if applied simply to the diminution of pain and pyrexia, cannot reasonably be objected to, and if these two items in reality constitute the disease; and that in his calculations the less always includes the greater, his case is proved to the hilt. I am really of opinion that when Dr. Maclagan pronounced this oration, this idea was paramount in his mind, for in the same discourse he pro-

claimed the inefficacy of the salicylates in all the grave incidents of the disease, and that he had quite eliminated from his mind all consideration of cardiac disease. These are his own words: "Whether or not the salicylic treatment of acute rheumatism diminishes the frequency and danger of heart complications, is a point on which I have not time to enter, I believe that it does to some extent." This is, perhaps, the most outspoken declaration in this debate, of the insignificance attached to mere heart affections in the treatment of rheumatic fever; but Dr. Maclagan is not alone in his cavalier treatment of central diseases, as the readers of the *Lancet* can testify, as they may have seen that the Senior Physician of Charing-cross Hospital in a post graduate lecture on "Acute Rheumatism," after dilating upon the thrice-told virtues of salicylics, and declaring that no fresh light has been shed upon its pathology or treatment during the last few years, when casting a glance at the possible co-existence of cardiac symptoms, dismissed the subject in this off-hand manner: "When cardiac mischief arises in a case of acute rheumatism, it should be treated in accordance with the plan adopted in such cases, the consideration of which is outside my subject!" That subject being "acute rheumatism." I could epitomise his whole lecture in three lines; but I shall not undertake the task![1] There are many other points in Dr. Maclagan's address, as well as in the discussion, open to legitimate criticism, such as the malarial origin and influence in the disease, etc., which time does not permit me to notice, but I cannot pass over his assumption that his remedy can cure acute rheumatism, not by its antipyretic action, but by some special influence on the rheumatic process, whatever that may be, that it is, really antirheumatic and not antipyretic, and his chief argument is, "that, whereas, were the action of the drug manifested through its antipyretic properties, the fever would first be reduced, and the joint pains subsequently," he alleges, "that all observers are agreed that relief of pain and alleviation of the local symptoms of acute rheumatism precede the fall of temperature under the salicylic treatment; were the curative effect of the salicyl compounds dependent on their antipyretic action the reverse would be the case, the fever would be allayed first, and the rheumatic symptoms would decline later. The salicyl compounds put a stop to the inflammation of the fibrous textures, and all the symptoms, local and general, to which that inflammation gives rise, such an action is more fully described as antirheumatic than antipyretic, for the febrile disturbance is secondary to the local inflammation, and not the local inflammation to the febrile disturbances."

But what say the doctor's *confrères* in the discussion to this doctrine, this point so much relied on for the proof of his hypotheses? Dr. Sidney Coupland does not appear to submit to his proposition. He says, salicylate of soda is certainly antipyretic, and, to a certain degree, antirheumatic, thus giving precedence to its antipyretic properties. Again, treating of the duration of pyrexia, he says, "As there is not by any means an invariable connection between the subsidences of the pyrexia and the disappearance of joint pain, and in cases uncomplicated by pericarditis, or visceral inflammation, I have thought it well to separate these two main features of rheumatic fever in the hope that one may be able to show whether the drug has more influence over the pyrexia than over the articular inflammation, or the reverse. Speaking generally, I can quite corroborate the statement made as to the very striking amelioration produced by the drug in the severity of the joint affections; but also, as a general rule, it will, I think, be found that its influences over the pyrexia is even more striking, and that the pain in the joints persists for a shorter or longer period after the temperature has become normal." And referring to the subject of relapses, he gives statistics proving that there were frequent examples of relapse or recurrence of pyrexia in the absence of joint pain, and of relapses of joint pain without and co-existing pyrexia.

Dr. Warner's results on this point are of a negative character. He shows that the persistence of pyrexia under salicylic treatment in 190 cases averaged 5-5 days; while the duration of joint pain under similar conditions averaged 5-3 days. Dr. Warner's statements scarcely sustain the proposition advanced by Dr. Maclagan, and as judged by the evidence submitted to the Royal Medical Society, we may fairly pronounce a verdict of "not proven." One circumstance worthy of notice is, that although Dr. Maclagan had the opportunity at the close of the debate to challenge the accuracy of these hostile statements, there is no record of his having considered it necessary in the interest of his theory or the broader grounds of scientific truth. It would not be natural to suppose that these paradoxical statements would pass by unquestioned, and to the honour of the profession one voice at least made itself heard in earnest protest against the inconsequential conclusions, so unwarranted by the premises arrived at in the discussion, and Dr. Davies, a leading authority on the question much discussed, referring to the debate and the contribution of Dr. Hood writes thus: "Dr. Hood, in his able analyses of statistics of cases treated by the salicylates, deduces the important fact that of 350 cases treated by the salicylate, 241 had heart disease; and of 350 not treated by the salicylate, 247 escaped from that complication;" and he significantly adds, "What advantage there is does not appear to be on the side of the salicylate." And again, while admitting that the employment of the salicylates shortens the duration of pain, he observes from the records that relapses are vastly increased, and shows that while patients lose pain, they are left feeble and exhausted after the use of the remedy; and Sidney Coupland's conclusions are almost similar. Here, therefore, we do not obtain much encouragement for the use of the salicylates, if we consider the shielding of the heart from endo or pericarditis to be the great object of treatment. In my mind, any plan which fails in in this object is only a delusion and a snare; for while the salicylates no doubt naturally relieve the pain and fever, they leave the heart a prey to the affection, and allow it to become crippled in its action for life.[1]

But a truce to criticism. I do not cite these writers for their singularity of speech; they but represent current phases of medical opinion, often very unstable, and too much influenced by every "wind of doctrine." I only regret to know that so many have forgotten in this particular the teaching of most of the eminent pathologists of the age, forgetful of the lessons of past experiences, and of *post-mortem* appearances. While, therefore, I cannot conscientiously join in the Io Pæans offered up by the members of the Royal Medical Society and others at the shrine of the goddess Salicina, I have not the same objection to intone a canticle in her praise, composed by a countryman of

[1] *Lancet*, November, 1887, p. 951.

[1] *Lancet*, February 11th, 1882, p. 249.

mine, Samuel Lover, who with the inspiration and prevision of a true poet, apostrophised the lady some thirty years ago in a versicle, beginning:

Sally silly, silly Sally,
Sally, won't you, etc.

But, in sober earnestness, I am more solicitous of inviting the attention of your readers to the pronouncement of a sound physician living in the pre-salicylic era (1880), who, in the following weighty words viewed the convictions and opinions of his compeers—I mean Dr. Sibson, F.R.S., then Senior Physician of St. Mary's Hospital, London. Writing of rheumatism under the heading of "The Heart," he says: "It will have been seen from what I have just said that when I am looking at the inflamed joints in acute rheumatism, I am thinking of the heart. How can it be otherwise? You see the limbs powerless, every joint swollen, tender and painful, and the expression of deep suffering on the face. The first turn of the mind is to find relief for that external pain. But you know, that within a given number of days you may count them on your fingers; those limbs, now so inflamed and shapeless, will soon lose their suffering, return to the symmetry of their form, and retain their power, and with it the strong desire to escape from their enforced weariness and exercise that power. But you know that, while the outworks are thus visibly attacked, the enemy is already in the citadel; and that this disease, which in its very nature attacks the limbs, in its very nature attacks the heart also, and at the same time that it attacks the limbs—that is to say, almost or quite at the beginning of the illness. In my cases, exactly one half were afflicted with inflammation of the heart; and in nearly every one of these that inflammation pronounced itself, by the immediate language of the heart itself, by pain in its region, by the anxious expression of the face and its dusky or glazed hue, and by the disturbed breathing. All these may not be present at once, but they come in their order. And I would here say that the murmur made by the blood passing in the wrong direction through the crippled valve is by no means the first indication in point of time. In most of the cases of endocarditis contained in the paper now in your hands, the murmurs were heard from the first. But some of them presented a much more impressive and more certain chain of evidence of the inflammation going on within the heart than if you at once heard over the organ a murmur without that disturbance of the powers of life that always accompanies the disease during its acute stage.

(*To be continued.*)

CHOLERA AND DISEASE VIEWED IN RELATION TO EVOLUTION, CONTINUITY, AND MOLECULAR THEORY.

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The longing and striving of the mind for the perception of the order or Forms of the phenomena by which it is surrounded is part of its very nature. Indeed, if we hold the conviction of cosmic evolution, we must also hold that our desire for grasping orderly and wide general truths is as absolute an existence as are the adaptations and correlations of the sense organs and mechanisms, to physical environment. Bacon says "that Saloman . . . declareth not obscurely that God hath framed the mind of man as a mirror or glass, capable of the image of the universal world, and joyful to receive the impression thereof, as the eye joyeth to receive the light; and not only delighted in beholding the variety of things and vicissitudes of times, but raised also to find out and discern the ordinances and decrees which throughout all these changes are infallibly observed" ("Advancement of Learning," vol. iii., p. 265, Spedding's edtion). Again, Bacon says: "For certain it is that God worketh nothing in nature but by second causes; and if they would have it otherwise believed, it is mere imposture, as it were, in favour toward God, and nothing else but to offer to the Author of truth the unclean sacrifice of a lie" ("Advancement of Learning").

Herschel says: "Yet it must be remembered that as far as our experience has hitherto gone, every advance toward generality has at the same time been a step toward simplification. It is only when we are wandering and lost in the mazes of particulars, or entangled in fruitless attempts to work our way downward in the thorny paths of applications, to which our reasoning powers are incompetent, that nature appears complicated. The moment we contemplate it as it is, and attain a position from which we can take a commanding view, though but of a small part of its plan, we never fail to recognise that sublime simplicity on which the mind rests satisfied that it has attained the truth" (Preliminary Discourse, par. 393). Herschel further says (*op. cit.*, par. 10): "We must never forget that it is principles, not phenomena—laws, not insulated independent facts—which are the objects of inquiry to the natural philosopher. As truth is single and consistent with itself, a principle may be as completely and as plainly elucidated by the most familiar and simple fact, as by the most imposing and uncommon phenomena." Babbage says ("Ninth Bridgwater Treatise," p. 32, 1837): "All analogy leads us to infer, and new discoveries continually direct our expectation to the idea, that the most extensive laws to which we have hitherto attained converge to some few simple and general principles by which the whole of the material universe is sustained, and from which its infinitely varied phenomena emerge as the necessary consequences."

Following these axioms in philosophy and method, we may be justified in seeking the expression and rate of the great Form of energy or motion, whose differences make the differences of the powers of such bodies, *e.g.*, quinine, nicotine, strychnine, etc., and, indeed, of the infinite variety of organic products.

It is inevitable that the mind seek the laws or Forms of such phenomena, and that it should work by analogy and deduction, equally as it works by the enumeration of facts. It is inevitable also that the mind make numerous partial and approximate attempts to seize the full Form and generalisation. To have perceived that the chemical—in all the fulness of that word—the vegeto-biological, the animo-biological, and the diseased phenomena, are all in continuity, is in itself a grand advance in method. But not only so, for if we could interpret the law or Form of a cell, we should be able to express the whole law or Form of the organic evolution, just as the physicist extends the law of a falling body to the whole realm of celestial mechanics. Nay, further, the imagination and hopes of man, and his higher feelings, would find scope and place within the infinite and future possibilities of the yet evolving Form of life, of which his individual being is an actual, reciprocal, and even creative part. Thus the law or Form of the evolution of a cell is *the* problem of our age; its interpretation will at once place biology, both in health and disease, within the divine realm of order.

There must be a grand cosmic Form of energy and motion becoming life. All our differentiations must be partial and secondary to the pan-diffused capacity for life. Thus the eye, ear, sensation, etc., are but differentiations of the pan-diffused capacities of protoplasm: nay, further back than the protoplasm, they were latent modes of the yet earlier energy and motion. The great fundamental sexual energy, power, or motion, correlates, and is inseparable from all the senses, and from the imagination and mind. Are we not in danger of a false method, when we assume distinct structural systems of organs for reflex nerve actions? We see the sexual energy arouse in reciprocacy and continuity with all the senses and imagination, but we do not look for differentiated nerves in these processes; the energy is pan-genetic in every molecule. If these views of the pan-diffusion of our best demarked senses are just, we must apply them to our general diseases —the great fever groups, the exanthemata, the epidemics of pneumonia, pleurisy, dysentery, cynanche, cholera, etc. Nay, further, such general views, from the study of the cosmic evolution of a cell and of the organic, and from the study of the continuity of the phenomena, must be applied to the great group of nerve disorders, from the wildest insanity to epilepsy, to hysterico-epilepsy, to hysteria, and to the thousand and one neurotic forms of illness which prevail in our age. We have also been taught the continuity of growths, " . . . that every pathological structure has a physiological prototype" (Virchow: "Cellular Pathology," Lecture III.)

Thus, then, whether we view the "general" diseases, the groups of nerve diseases, or the obviously structural diseases, we see their continuity with the physiological; but we further see that great common Forms and changes must be at the base of all the species of each of the great genera. I know that yellow fever periodically is epidemic in British Guiana; also I know that cholera epidemics have happened in the same colony. We all recognise that they are very different diseases as species, but they are very near generically, for we have seen cholarine, cholera-like ague, cholera-like bronchitis, cholera-like remittent, etc. The field of mere observation does not present us with absolutely or nearly demarked different diseases, even in our seemingly best separated diseases: pathological continuity equally as physiological is everywhere apparent. What does all this mean? The greater reply is, that the protoplasm is ever dying, but that at periodic intervals the degrees of death, or devolution, or change, are in excess, and inharmonious rates follow and are established—diseases. But as we acknowledge the physiological and pathological continuity, must we not go further back and deductively assume nearly-related vito-chemical Forms and changes which are common to the varied groups? Thus we look for an approximative parallelism between disease and vito-chemical changes. We are sure, further, that the latter *must* be orderly, *must* be in continuity with the molecular chemistry of what we call the organic kingdom; and we are no less sure that, faithfully following the "historic sense," many of our diseases will be proved to be orderly, and to have great and common vito-chemical Forms and bases. A scientific and wise therapeutic practice would follow.

Life must be cosmic and eternal. The Eastern poets and philosophers saw this great idea: ". . . and in thy book all my members were written, which in continuance were fashioned, when as yet there was none of them" (*Ps.* cxxxix. 16). The Hindu idea of Brahme implies the eternal energy, continuity, and evolution. Life is the result of all preceding and existent energy and its modes; and all the past and present are in continuity.

Diseases are in orderly continuity with health; they are the expression of the contained capacity for libration which exists in the order and rates of the organic series and evolution. Disease may be viewed as orderly reversions of the previous evolution; the tendency to disease is ever absolutely present. Life and its functions, or phenomena, are neither in the blood nor nerves nor brain, mainly; life is pan-cellular, probably a pan-motion of the ultimate molecules. The pan-cellular activities are in a vastly higher state of molecular motion in some fluids, tissues, and cells, than in others—*e.g.*, the blood, with its countless living elements, its red, and its colourless Norris-discs, and its white corpuscles, is nothing less than an infinite universe of infinite activities, and of an inconceivably delicate equipoise of correlation. Its protoplasm and modes must contain the latent motions capable of the full differentiations of the future animal—eye, ear, and also the latent capacity for these yet higher differentiations by which we know and rejoice in what the senses give us, and in the yet higher *à priori* transcendental consciousness. But the infinite activities of cosmic evolution which have resulted in, and are existent—in absolute continuity—in the blood and in its protoplasm, are existent, more or less, in all the differentiations of the body. Men have died in Demerara of yellow fever from a mental shock; men have died in India of rapid cholera from mental and other shocks. Have we not all experienced the horribly fœtid, probably albuminoid putrefactive gases which evolve and escape from some women when under shock or semi-syncope? Have we not known men seized with sudden stinking diarrhœa following chill or shock? and have we not known them relieved by a full dose of cold spirit and water? In all these so-varied examples, must not our pathology embrace the conditions, motions, and disturbances of the blood and protoplasm? and must not our therapeutic "grog" also have modified, perhaps sustained or restored the normal modes and motions of, the ultimate protoplasm? When you are in Bengal or Guiana, and see the evolution of cholera and yellow fever following a very great variety of changes of environment, the mind is compelled to seek the pathology of these diseases, far more in the disturbances of the infinitely delicate equipoise and correlations of protoplasm than in any single external event.

But although we know *à priori* that all such disturbances and diseases are absolutely orderly, yet as they are disturbances of the greater Form of health, our first enquiry should be:—What is the *normal* natural Form, or law, or order, or rate of the evolution or development of a cell, and thus of the organic world?

(*a*) It must be orderly, or by what we call law, and must be cosmic in its correlations.

(*b*) It must be *part* of, or in continuity with, the Form of the evolution of the so-called elements.

(*c*) It must be in continuity with the Form of the "conservation of energy," and with the Form of the "correlation of the physical energies."

(*d*) The Form of gravitation is the same in the evolution of the spheres as in a drop of water, and it must preside over the form of a cell or a monera.[1]

[1] "All monera, when unusually disturbed, when abnormally irritated at their surface, tend to assume the globular shape," Dr. E. Montgomery

(*e*) Gravitation and chemical action are of one series.[1]

These ideas and facts, this method, must be part of the basis of the study of the Form of vital evolution, whose past, present, and future must be of one great Form of continuity. But protoplasm is not the result of one simple series of chemical rates, though its Form must be as orderly and definite as are the changes of H_2O from gases to water. Albumen is found to be "compounded of many albumens, having *very nearly* the same composition . . ." (On "Fermentation," by Schutzenberger, 4th edit., p. 255). We recognize the parallelism or continuity between what we call the organic chemical groups of bodies and living organisms—*e.g.*, we see the alcohol compound-radicals in their different modes or motions, passing through the vast series of substances of which plants and animals are composed.

In the molecular energies of C O H N, in conjunction with those of some mineral elements, and in conjunction with the cosmic modes and energies, of which the elements themselves are parts; and in conjunction with the physical energies or modes—heat, light, polarities, etc.—are the necessary and inevitable *motions* which pass into life. But these organic and inorganic elements are not final forms; they are but stages in the cosmic evolution. They are not the cause of life; they are the essential media, or modes of energy and motion passing, in absolute continuity, to the vital modes and motions. They are transitional modes of matter, energy, and motion. They could not exist without life (in one or other of its modes) any more than life—as our senses can recognise life—can exist without them. Compare a living animal in the infinite fulness of all its powers with the same just killed by a sudden blow or shock—what is the difference? We can reply but little more, than that motion has ceased in it; but motion in a living animal implies, not the circulation of the blood only, but an infinite activity of motion, reaching every ultimate molecule, every ultimate atom, and every "gemmule" of the organism, and these, in all their motions, have ever cosmic correlations. The vital phenomena are as absolutely under the law of the "conservation of energy" as are the more elementary modes of matter and motion—heat, light, magnetism, etc. The doctrine of continuity further compels us to submit our minds to the hypothesis that every molecule, every gemmule, every function of the body is a necessitous survival, of and with infinite correlations. We do not, in our present stage of method, doubt that the entire mechanical motions of the furthest heavens are in one mutual, inseparable harmony of correlation. We do not doubt the great Form or law of definite proportions in chemical actions; nor must we doubt that all the phenomena of life—of composition, structure, and function—are absolute survivals or essential correlations in and of cosmic evolution, and that they are the necessary expression and result of law and order. Viewing life thus, as the expression and result of the infinite and eternal preceding evolution, and viewing the infinite agencies whose result is life, and viewing the amazing activities ever in process in protoplasm, we shall not be surprised that the harmonies of correlation are not absolutely and identically stable. We therefore should *à priori* expect that at periodic intervals, many kinds of change of external environment would lead to a disturbance of the delicate equipoise of the molecular motions and correlations of protoplasm, and diseases thus evolve. Thus change of season, change of place, changes of wind, sudden rains, sudden heats, emotions, chill, etc., have been the occasion for the evolution of new and inharmonious motions and compounds, which in India have been followed by cholera. Very similar changes in external environment have, in other latitudes and countries, led to the evolution of yellow fever, typhoid, etc.

We are thus led to approach diseases, not viewing them as so many entities, but proceeding by the historic sense we apply the truer method of continuity, and thus we shall see affinities between so-called different diseases; whilst our therapeutics will tend to grow commensurately subtle and orderly, as is the process of the evolution of disease itself. The method of continuity further compels us to view the deviations of disease as of one order and series with the primary and fundamental evolution of protoplasm. Disease is thus, not in any case, a fixed quantity, but an orderly gradation with health—*e.g.*, no disease can be more varied than what we call cholera. The field of cholera embraces a pyrexia only, the slightest diarrhœa, the occurrence of cramps only, a remittent-fever type, with slight collapse, the slightest diarrhœa and retching, but with sudden collapse and death; the existence of a continued fever, in many, at later stages. Even bronchial attacks and other diseases will, at times, assume a choleraic aspect. Further, observation has proved the *de novo* evolution of cholera, and yet further, observation has proved that the molecular motion of the protoplasm and cells, etc., of cholera, can be taken on or absorbed, at times, by the molecular motions of other individuals. These outer aspects of the phenomena of cholera find a harmoniously parallel theory in vito-dynamic chemistry, which advances, that new motions, and for the time being, inharmonious chemical compounds arise, in true continuity, in and of the dynamic modes of protoplasm. It is obvious that out of the vastly complex, cosmically correlated and highly atomic pabulum of protoplasm, a graduated series of dynamo-molecular chemical gradation of changes must happen, which are parallel with the varied but related phenomena and symptoms of disease. This graduated series of vito-chemical change, I have illustrated by the example of the marked varieties and gradations of cholera, typhoid, and the febro-inflammatory groups—cynanche, pneumonia, herpes, etc.

Some general propositions have to be kept in mind:—(*a*) That the laws of the primitive protoplasm, prevail throughout

(St. Thomas's Hospital Reports, ix., p. 76). The forms of shells can be exquisitely drawn by an arm attached to a vibrating pendulum. The exquisite and infinitely varied figures thus produced demonstrate the great place of gravitation in the production of animal forms.

[1] "They (the oxygen atoms) are urged towards it (a red-hot diamond suspended in a vessel of O) by what is called chemical affinity; but this force made clear, presents itself to the mind as pure attraction of the same mechanical quality, if I may use the term, as gravity" ("Heat as a Mode of Motion."—Tyndall. 3rd edit., 1868, p. 46). "The magnitude of the forces engaged in this atomic motion and interior work . . . . is enormous." "The force of gravity almost vanishes in comparison with these molecular forces" (*op. cit.*, p. 139).

"Like the molecules, the erections of man present every gradation of stability, from that of the pyramids to that of the lofty, wide-spreading gothic arch, whose permanence depends on its key-stone and buttresses . . . . when the key-stone crumbles, or the butresses fail, the stones fall to more stable position on the surface of the earth, and in this fall heat is developed. In like manner, when from any cause the atomic clamps of the molecules are displaced, the atoms rush into more stable combinations, and heat is set free as before; the polar attractions of the atoms thus producing effects similar to the familiar phenomena of gravitation" (Cooke's "New Chemistry," 8th edit., p. 358). ". . . in the burning of one pound of hydrogen, sufficient energy was developed to raise a weight of 47,888,400 lbs. to the height of one foot . . . ." (Cooke, *op. cit.*, p. 219).

the entire organism, and have a greater place and power than have the secondary differentiations. (*b*) That in the main, the deviation of the molecular modes and motion of protoplasm, which are the bases of general diseases—cholera, fever, cynanche, herpes, pneumonia, etc., must be of one grand type, and orderly, and in continuity with the primary motions and energy of the evolution of protoplasm. (*c*) That the Form of disease must be as wide, both as to the time involved and as to its cosmic correlations, as are the time and correlations of the evolution of protoplasm itself. (*d*) That the so-far ultimate Forms of the evolution of protoplasm must be in motion, and its varied and correlated modes—heat, etc. These vast and not-yet-read motions we express by the words, "molecular energy." (*e*) 98.4°, though its more immediate cause may be to some degree differentiated, *e.g.*, in oxidation of muscular tissue, in arrested cycloidal rotation of discs, etc., must have source in the activities of the molecular changes of every atom of the protoplasm—both tissues and fluids—of the system. Incessant change must be in process in all tissues, both in the evolution of highly complex organic bodies, and in their devolution—a constant birth and death. Thus the absorption and storing of heat, and its evolution, must be ever going on in every molecule of the organism. The mighty molecular forces, or energies of evolution and devolution, which are ever in operation in protoplasm, must be about balanced; but the cosmic energy becoming life is the greater, resulting in creation and health.

Classification.—The present classification of disease is like to that of language, prior to F. von Schlegel and the comparative philologists: there was a vast array of facts which overwhelmed the mind. Schlegel's "Illuminating Idea" (Coleridge) gave order, unity, continuity, and an ever-expanding path toward more light. The comparative method and the idea of continuity which Schlegel gave to language, have reached all the realms to which thought can be applied, from physics, through all the sciences, and even to the higher mythologies. This method, from Goethe to Darwin, has penetrated biology. It is impossible to hold the faith of cosmic evolution in the vegetable and animal worlds, without, as a "necessary truth," holding that an orderly evolution and continuity must obtain in all disease—in its earliest inception, or the earliest deviation from health—throughout its continuance, and in its decline. Take, for example, the fevers of different latitudes: are we to suppose that the different aspects, courses, and results of fevers, point to a greater difference, or to a greater unity? All analogy teaches us that a great Form or method is common to them all. The periods of intervals during which man does not librate into fever, the pyrexia, the general duration of the disturbance in individuals and in communities, all point to a common Form. Yellow fever, cholera, cynanche tonsillaris, typhoid, typhus, etc., have all had an origin from *chill*, or other altered correlation of environment. That they do not show at all times, implies that the extreme of instability of protoplasm is reached at certain intervals only. Not only is the grander outer aspect and natural history of the great fever group indicative of a common Form; but can it be otherwise than *à priori* true that a vito-chemical and molecular change in protoplasm, albuminoids, etc., of almost identical nature, is common to the group?

If these statements appear too hypothetical, I ask, view ague. (*a*) There are quotidian, tertian, and quartian agues; but not only does this series exist, but there is a very great variety of fevers, called by natives of India, *tup* or *bokar*, which are of ague type, but which it is impossible to classify under either of the three classes named. I have as certainly seen herpes alternate with ague, as neuralgias following ague. Then, again, there are a great many cases of fever which cannot be said to be either distinct remittents or continued. Then, again, there is that fever known as epidemic pneumonia. I have seen an epidemic of a fatal type of bronchial fever. Cholera itself has grades, from a febrile attack, from slight diarrhœa only, from a slight malaise up to the sudden and fatal-blow cases of the earliest stage of some epidemics. Indeed, other diseases at cholera seasons show the choleraic type.[1] (*b*) Then, again, gradation in the outer aspect of phenomena is seen in that epidemics occur which cannot be classed either as pneumonia, or congestion of the lungs, or fever. I cannot but hold the hypothesis that an infinitely delicate difference of the degree of change in the devolutions and modes of protoplasm, is the determining præstage of a fever and pneumonia.

I have seen the *de novo* evolution of typhus,[2] typhoid, whooping-cough, measles, scarlet fever, membranous croup or diphtheria, varied continued fevers, cholera, erysipelas, mumps, small-pox or chicken-pox, cynanche tonsillaris (epidemic), etc. The greater study of these phenomena points to *gradations*, to alliances, and to Forms in common to the so-seemingly-different groups. Must not a basis of classification embrace and rest on a great vito-chemical common form of change in protoplasm, whose delicate differences in degree correlate with the graduated series of disease? Must we not *deductively* seek, by analogy, and by the law of continuity, for this great common Form or order of protoplasmic or albuminoid devolution? We are sure that the changes in protoplasm which make for disease are in absolute continuity with those processes which are ever in action in health.

Another entrance has been made into the nature and Form of the processes of disease by the action of quinine, etc. We know that we can modify the molecular processes which make for disease by a great variety of changes and agents, *e.g.*, ague can be arrested and prevented by quinine, opium, change of place, change of winds, etc. We are thus put on the path or method of the processes; but such path is not opened by one instance only; the grand group of the vegeto-alkaloids, in their varied actions, all show a like power of molecular action and motion. Different as are the therapeutic actions of such remedies as nicotine, strychnine, morphine, etc., yet we can never doubt that their *grand* mode of action is one; their differences of therapeutic action are due to the minor variations of molecular actions and motions. To use an illustration, view for a moment the entire ensemblage of all existing and possible harmonies from Beethoven down to the limited harmonies of the Indian tom-tom; the whole range of such, and, indeed, of the universal harmony and music, are but variations of but one simple physical existence—viz., the vibrations of matter and

[1] It is a bad method to speak of "other diseases showing the choleraic type." For it is the system, the protoplasm, which, at periodic intervals, has allied generic devolutions into poisons or states, which thus become parts of and common to many groups of different diseases. Thus I have seen a bronchial attack assume a choleraic type.

[2] See *Medical Press and Circular*, June 8th, 1870; *Medical Times and Gazette*, January, 1874, September, 1881; and PROVINCIAL MEDICAL JOURNAL, 1886.

waves of fluids.[1] Or again, are not all the infinite movements of the physical cosmos, reducible to the simple laws or Forms of gravitation? Nor can we doubt that the forms and movements and actions of organic life are subject to, and part of, the Form of gravitation.[2] Again, this century has shown that all the "physical forces," heat, light, electricity, etc., are correlated modes of motion.

With such instances of the method of nature, can we doubt for a moment that the action of therapeutic agents is on the molecular motions of protoplasm, and that the differences of action of morphine, nicotine, strychnine, etc., are contained, and minor variations of a grand Form of vital motion: *à fortiori* disease, cholera, etc., are, in their deeper pathology, disturbed inharmonious, yet orderly, molecular motions in protoplasm. We are apt to lose sight of the infinite complexity of process and motion which make the full harmony of life. There is ever present, the grand tendency for the complex, highly differentiated compounds, to revert to more elementary, more chemically stable bodies. Can we wonder that, at periodic intervals, the then-existent protoplasm of a race—survived and correlated to somewhat uniform conditions, say in Bengal—should show a slight and general reversion from its highly differentiated and unstable tensions or conditions? Is it not just to expect that such reversions of the general protoplasm of the race in Bengal, should mainly be constant, but varying to a small degree, and this variation would be expressed by the "sporadic;" and that such instability of protoplasm would, at periodic times, such as the *extremes* of annual heat and cold, and other changes of climate, such as rains, or heat, or winds "out of season," show in a large proportion of individuals over a larger area of protoplasm, and thus the epidemic appears. In Bengal and Hindustan such is the form of cholera.

Further, as we view life as the expression of the survivals and correlations of cosmic motions, and as in disease—*e.g.*, cholera—the motion of every cell-contents, and of every organic fluid within the body must be changed, we have a near explanation of infectivity. The new motion, essential to and part of the disease, is capable of conveying its motion to the molecular modes and motions of other individuals; but in harmonics it is impossible to add certain motions to others—there must be receptivity; there must be, in harmonics, an alliance of method between the old and new motions. And so it is in the more complex motions of protoplasm. The molecular motions of the protoplasm, or in other words, the stability of chemical mode, of some individuals, will not take on the new motion or variation of the disease. We thus approach the Form of infectivity and the Form of resistance to infectivity, by one general hypothesis of molecular motion and their harmonics; or in other words by the higher dynamic chemistry.

Thus a broad view of the action of therapeutic bodies, in their grander and general power, and in their varied and different actions, points us to a great Form of the receptivity of protoplasm to new and changed molecular motions; or viewed chemically, they point us to the grand law of the tendency of organic bodies to revert to more stable bodies with the evolution of heat. The vegeto-alkaloids—strychnine, morphine, nicotine, etc.—are necessarily less differentiated than is animal protoplasm; they are, being vegetable, in earlier stages of the continuity of cosmic evolution; the capacity for them, or for their isomeric forms, to overlap or exist in animal tissue, is implied by the law of orderly cosmic evolution in continuity. We have a right to expect that isomers, or allied molecular motions, to those of strychnine, morphine, etc., should appear in the natural devolutions of protoplasm, and that thus the so-far autogeny of disease, is philosophically and scientifically to be expected.

With the development of higher chemical law, and with wider generalizations in organic chemistry, based on the great Form of continuity, we may fairly expect a great underlying vito-chemical basis of classification in our pathology, and which shall further show the method of continuity in our therapeutics. We are sure that there is no specific difference between carbon and other so-called elements. The properties of the organic are as fully under the forms of continuity and conservation of energy, as are those of other elements. The evolution of cells is as necessitous, with and of carbon and its modes, as is the evolution of water with and of H_2O. The fullest chemistry of carbon, nitrogen, etc., will shew that the reversions or devolutions of protoplasm are necessitous and orderly—are but part of the same curve as is that of their evolution. We see that starch, sugar, etc., are among the earliest products, from the inorganic to the organic, and as alcohol and the vast series of its compound-radicals and varied derivatives follow on in an orderly evolution, so we may fairly seek in their method and series, not only a path of coördinators of protoplasm (*e.g.*, alcohol, aromatics, acids, etc.)—*i.e.*, of therapeutic agents—but we may fairly seek by the same path an early entrance into the method of vito-chemical devolutions of protoplasm. The differentiations of protoplasm seem infinite, but yet we are sure that one great orderly method obtains throughout. The constantly-present influences of environment on protoplasm are but minor parts of the Form of energy becoming life. Not the less, all environment—*i.e.*, all physical and vito-physical existences in their correlations and pan-diffusion—are inseparable parts of such form of vital energy, *e.g.*, part of our protoplasm differentiates to capacity for vision, from the degree of the hydra, which seeks the lighter side of the glass vessel in which it lives, up to the powerful differentiation of vision of the eagle; it thus necessarily follows that the very existence of protoplasm has necessitous relation and dependence on the energy of light and its correlations. In other words, light is one of the cosmic energies which go to create, which is even a *part* of protoplasm; and so it is as to all the other senses; nor can we refuse an equally wide base for 98.4°.

We approach the study of disease:

1. By its outer aspect, as presented to the eye and other senses: our present classification is thus based, and is grandly natural and true; it is parallel to that of languages, prior to the era and idea of F. von Schlegel, and the comparative phylologists.

2. Anatomically and physiologically—or by structure and function—and both structure and function, in disease, viewed in continuity with their order and rates in health.

3. Pathologically—embracing structure and function—changed chemical modes and bodies; bacteriologically, which must be in absolute continuity, both in its cellular

[1] Such is the receptivity of protoplasm, such its capacity for condensed motion, that the seventh nerve and its correlated parts are capable of phonographing the infinite millions of harmonies which may fall on the musician's ear throughout a long life!

[2] See the wonderful shell-like figures produced by the arm attached to a vibrating pendulum.

forms and molecular motions or powers, with the general laws or Forms of normal cell evolution and activities.

4. Chemically—including inorganic, organic, and the correlation and conservation of energy, and all these viewed by the hypothesis of continuity.

5. Pangenetically, as applicable to vision and the senses, to the sexual, to the nerve irritability, or rather to the primitive irritability of protoplasm as persistent through all the after differentiations. The pangenetic view also embraces the great fact, that polarity and energy are not at the poles, but *in* the element. Also it embraces Darwin's hypothetical gemmules; indeed, Faraday's and Darwin's two generalizations are really one, but approached by two paths: Faraday's by the path of the physical energies, and Darwin's by the organic phenomena of buds, fission, etc.

6. Thermo-pangenetically—which will include the fact that heat, and its correlated modes are disturbed—evolved or absorbed—perpetually in every cell, and in every organic fluid. There must be constant life and death in every cell, and in every molecule, heat absorbed and evolved whose survival is 98.4°.[1] The fact of pyrexia being so frequent a phenomena, indicates a great common law or method in the great fever and inflammatory groups of disease. The blood holds gases in solution, O CO_2 N, etc., and thus the activities of life; and the evolving energy are pan-diffused, pangenetic, in every cell. Here, in the disturbance of pan-cellular modes and motions, is a source of diseases—cholera, etc. Here may be laid the præstages of diseases—fevers, febro-inflammations, etc.

7. Therapeutically—therapeutic action must be orderly; we are overwhelmed with the vast detail in every part of the field. When quinine reduces temperature, though we must not exclude the nerve-centre study, yet as nerve-centres are but partial differentiations of pan-thermic potentialities, we have to look more to molecular chemistry, and to the amazing energies which are contained in matter, and which are evolved when it is undergoing changes of mode. It seems fair to hypotheticate that quinine arrests chemical reversion of the highly differentiated protoplasm to more stable bodies, for it arrests the evolution of heat, not only in agues, but in a great variety of other diseases. Quinine may, in such cases, arrest the formation of alkaloids, or of modes or states of protoplasm, which are poisons; but we have to guard the mind against assuming any finality of process—*e.g.*, that strychnine, etc., act as they do, implies a non-harmonious molecular motion. Therapeutic action involves a great Form of molecular motion, whose laws we have to seek in the higher molecular chemistry. The same or allied law would appear in the action of the evolved isomeric poisons of many diseases.

Pyrexia must be in continuity with 98.4°. 98.4° must have cosmic correlations in the cosmic evolution, and involve the conditions of the evolution of the protoplasm itself. In minor circles, its causes may be sought in (*a*) arrest of cycloidal rotation of discs at the capillaries (Woollcombe); (*b*) in chemical process—oxidation—of every particle of protoplasm, since the blood contains O in solution; (*c*) in the oxidation of tissue and blood in the lungs; (*d*) in the evolution of energy—heat—from inter-molecular change. Animal heat is *part* of all life; it is absolutely *part* of all cellulo-chemical bodies; it is latent or absorbed in the actual evolution of life. Heat, in some of its modes or energies, is absorbed and condensed in the evolution of every cell. When the carbonic acid of the atmosphere, and the nitrogen of the soil, are, under the power of the sun, transformed into sugar and starch, etc., heat is condensed and absorbed; and, when further, these plants evolve, under sun energy, to higher products, alkaloids, albuminoids, etc., heat and its modes are yet further condensed and absorbed. The living body must thus be a vast storehouse of heat in its various modes, and of molecular energy and motion. Imagine the potential energy of the nitro-glycerine groups; nitro-glycerine is $C_3 H_5 O_9 N_3$ in which "the molecules have a definite structure by which these atoms, *i.e.*, the non-saturated O atoms, are kept apart" (Cooke, *op. cit.*, p. 250). It is impossible to view the energy of nitro-glycerine without feeling that other compounds of allied chemical molecular composition must have latent potentialities of energy of vast power. Every function and action of every cell is a survival, and has absolute and cosmic correlations. The existence of the vegetable alkaloids, and the evolution of their isomeric molecular motions, where, say, hysterical tetanus happens, are as orderly and as obedient to law, as are the ratios of a falling body. Let us view ague as a type: we see, first, the disturbance of the fundamental irritability of protoplasm as shown by the sense of chill and tremor; secondly, the liberation of heat—hot stage; thirdly, the sub-normal stage of heat.

Few practitioners but must have traced these general courses of symptoms and temperature in measles, scarlet fever, erysipelas, etc. Allowing for what we, in other fields of phenomena, call subsidence, compression, and variation, the course of an ague is typical of all fevers, including cholera.

In the early stages of some cholera outbreaks men die as by a sudden blow. The purging and vomiting are as nothing. A community in India may have been long free from cholera, when a sudden change of weather happening, *e.g.*, to colder wind and rain, to still murky heat and sky, to sudden hot winds out of season, etc.; within a few hours many will die of most malignant cholera. But often before great outbreaks of cholera, a few sporadic cases will show during a week or more. The only hypothesis which seems adequate to explain the phenomena is, that at recurring periods, the protoplasm of the communities has reached a mode of heightened unstable equilibrium. Then, almost any change in its environment and correlations will be the occasion for its devolution or reversion into new vito-chemical bodies, modes, and motions. The infinite delicacy of harmonious molecular motions, and equipoise of correlation, is disturbed; new and inharmonious motions are established, not synchronous or correlated with the then habituated and survived motions and states of the organism. That a few isolated sporadic cases should first show, followed by a sudden outburst, and this again followed by the milder type of cases, in gradually lessening numbers, points to the gradually accruing instability of protoplasm—its sudden fulness of instability—and then the exhaustion of the grander instability as shown by the few and milder-typed later cases. The old observation that, at cholera seasons, many different diseases show choleraic type, is in harmony with the evolution and pan-genetic hypothesis of cholera.

In our rude chemistry, the products of combustion—*i.e.*, the products of molecular motions, can be greatly modified

[1] Professor McKendrick says: *Lancet*, August 18th, 1888, p. 303, Glasgow Address, " . . . . The living body is an aggregate of living particles, each of which breathes in the respiratory medium passing from the blood."

by our methods of procedure; and *à fortiori* the products of molecular change and action, in the highly atomic and unstable bodies of the organism, will vary much under different changes; not the less, generic types of change will obtain throughout the great variety of the different products of both groups. For example, the frequent long hot stage of an ague, and the not-recognised hot stage of a cholera, do not destroy the generic type of the two diseases. Whether we, from a wide point of view, contemplate disease, or pyrexia, or the power of certain cell-products—poisons—in the system, or the action of therapeutic remedies, we are brought face to face with a grand Form of molecular energy and motion, which has become, and is becoming, life, and whose librations and disturbances are involved in the nature of disease.

Look at one of these sudden and collapsed cases of cholera which occur at the early periods of epidemics. I do not disregard the vomiting, diarrhœa, cramps, etc., but are there not greater facts? The greater fact is the aspect of the patient. He lies on his back, his arms and legs straight and rigid, he is cold, sunken in texture, his whole aspect approaches that of a corpse, the vitality of the organism is almost gone; the patient gives the impression that the activities, which go to heat and intertextural movement, are stricken low, and these phenomena pervade every part of the body; the blood does not now normally stimulate the heart; its protoplasm has lost some of its modes of energy, and all other differentiated protoplasm is affected. I can form only one approximative hypothesis—viz., that the inter-molecular motions and equipoise and correlations of protoplasm are disturbed—that a reversion from correlations which are essential to, or are parts of heat and other vital modes and motions has happened. The sudden loss of heat is a sign of a pan-suspended or deflected intermolecular action. The suspended action of such an infinite series of processes must in true continuity of law result in less complex chemical bodies—alkaloids, etc.—whose molecular motions are out of harmony with the survived and correlated motions, *then essential* to life. The secondary fever marks the period of the return to normal states, the exhaustion or combustion of the new bodies, which arose from the primary libration of mode and composition of protoplasm. The sudden collapse, the stillness, the rigidity, coldness, the corpse-like state of typical cholera, impresses one that its pathology lies deep in loss of those intermolecular motions and changes which go to heat, and other modes of vital motion.

We know how transcendantly delicate are the correlations of environment, on which the functions and lives of many plants and animals depend; the human protoplasm must be of equal susceptibility; indeed we all know how great a variety of changes of environment have been followed by cholera. In the main, cholera is an evolution, a temporarily changed mode of molecular motion in protoplasm. But we have indisputable proofs that cholera is sometimes communicated from the sick to healthy attendants, and this fact is explicable in that the the new motions of the protoplasm, as existent in cells, bacilli, organic fluids, and the modes of the organism, in cholera cases, are capable, like the new motions of a yeast cell, when presented to sugar at certain temperatures—*i.e.*, in certain, to it, harmonious motions—of exciting or setting a-going a vast amount of like change or motion in the receptive protoplasm of other organic matter and individuals. The receptivity of the protoplasm of any individual or of any community to the ferment-like action of cholera motions, in those cases where cholera has followed the importation of cases, will be but part of the same great Form of the unstable equilibrium of protoplasm, out of which cholera precipitates *de novo*, from a great variety of shocks and changes. The pollen falls in vain on the stigma except at certain seasons of activity of motion in the ova. The phenomena of parthenogenesis demonstrate that fecundity may be independent of the applied ferment, or spermatazoon or different cell-activity and motion.[1]

We see a somewhat definite proportion of a regiment or district pass into cholera during an epidemic, and thus ask: what are the devolutions or reversions of protoplasm and albuminoids, which we assume to be the conditions, or part of the series of changes, which precipitate cholera? We are sure that such changes must be orderly and according to law; we know that they are ever happening to some degree, for we have the sporadic cholera ever present; we are sure that they are "generic," for cholera is a most varying phenomena, from simple diarrhœa, remittent fever, cholera, fever, cholerine, up to other diseases showing the cholera type. Further, these precipitating conditions of cholera have appeared after a very great variety of changes of environment; cholera has as surely appeared after mere change of place by the individual, or after a shift of wind, etc., as from the infection of bacilli, cells, etc., having the particulate motion or powers of the protoplasm of a cholera case. From all these facts, we conclude that cholera has not a sole specific cause, but that its causes or conditions are generic. Hence we ask the chemist: what are the primary directions of changes and devolution or reversion in protoplasm and albuminoids? Schutzenberger says (On Fermentation, 4th ed., 1886, p. 255): "Among these groups (albuminoid substances), many closely allied species may be placed, which owe their existence and individuality only to certain subtle divergencies of properties, which present to the mind nothing very distinct, such as the manner of forming precipitates with different re-agents." "The soluble ferments, the peptones, are products of the decomposition of albuminoid substances."—(*Op. cit.* p. 257). The complex results and varied products of the splitting up of albuminoids (*op. cit.*, pp. 259, 260, 265, 6) suggest the like result within the system, and harmonise with the phenomena of the so-far autogeny of cholera, and with the fact of its so very varied type, and its so varied and wide alliances. Schutzenberger says (*op. cit.*, p. 254): "So long as the question of the constitution of the immediate principles of animal tissues has not been determined, it will be in vain for physiological chemistry to investigate, by the most careful direct analysis, the different elements of an organ, or of a liquid, whether in a normal or pathological condition; we shall always be stopped by the unknown in the interpretation of the results which have been obtained."

That quinine, arsenic, opium, alcohol, infusion of lemon peel, change of environment, etc., are capable of arresting the conditions which make for ague or other fevers, puts us on the method of prophylaxis. Slight changes of environment have been found to arrest that devolution of protoplasm which is followed by cholera. Broadly viewed, medicine cannot be separated from the highest physics

[1] Darwin says:—"All the forms of reproduction graduate into each other, and agree in their product, for it is impossible to distinguish between organisms produced by buds, from self-division, or from fertilized germs."—(Animals and Plants under Domestication, vol. ii., 1868, p. 383.) Again, Darwin says:—"The female element includes nearly sufficient gemmules of all kinds for independent development.'

and the highest chemistry. These sciences are *part* of cosmic biology, both in health and disease; they are *part* also of therapeutics. The word "infinite" is not too great a measure of the delicacy of correlation and equipoise, on which life, both in health and disease, depends. But if the higher chemistry should demonstrate the series of new devolutions of protoplasm which are associated with diseases, we shall even then not have reached the goal. The mind will ever seek the Form or law of the molecular motion by which morphine, atropine, strychnine, etc., and the autogenetic alkaloids act on the system so differently. And such Form or law, we are sure, must be in continuity with other great Forms in physics and chemistry. Thus we have the powerful method of deduction to aid in the study.

The medical mind, during this generation, has clearly seen that prophylaxis is the main direction for warding off disease, and hence has arisen the great advance of all hygienic measures in what concerns pure air, water, and cleanliness. It is, however, seen that cholera, small-pox, yellow fever, etc., will happen with the most perfect hygienic surroundings. Indeed, yellow fever often appears in those of the finest physique and health. We thus recognise that disease has a deeper base in the capacities and devolutions of protoplasm, and in the Forms of the great biological evolution, which hygiene cannot reach. But the history of human knowledge has often demonstrated that the mind, by a submissive method, and deductively, and by analogy, can grasp the true Form of phenomena long before analysis has demonstrated them. Hence we have strong and just hopes and expectations that we may be able to perceive the true coördinators of protoplasm against its devolution into the modes, motions, or poisons of cholera. An entrance has already been made in this field, in that we know that cholera will evolve after a great variety of *changes*, and will cease after and with certain changes. The study is thus narrowed to the grasping of the essence or Form contained in the *changes*, in relation to the unstable conditions of protoplasm. Such causative *changes* are not confined to outer environment of climate, place, season, etc., but include internal environment, such as the changing an accustomed drinking water, taking a saline aperient, a debauch of food or drink; indeed, an emotion has precipitated the fatal changes in the protoplasm. Observation has shown that a vast variety of *extremes of change* of our habituated climate or outer environment may, in cholera seasons, *i.e.*, at periodic recurrent librations of protoplasm, precipitate the disease. For example, the extremes of the hot season, and the extremes of the cold season (Calcutta); the extremes of heat (May and June), followed by the extreme of rain (July), is followed by the sudden, short, and severe outburst of cholera in August (Lahore)—Lewis and Cuningham, *Practitioner*, April, 1878, p. 309.

In Glasgow, in 1848-9, the highest mortality of the epidemic was in January (Baly's Report, p. 30). In the St. Petersburg epidemic of 1852-3, the highest mortalities were in November (666) and in May (710)—*op. cit.*, p. 31. In the epidemic of cholera in England of 1854, the observations of Mr. Glaisher showed many *extremes* from normal habituated conditions—*e.g.*, "the velocity of the air was less by one half than its average for some time before;" "weak positive electricity;" "no rain;" "a dense mist and stagnant air, with a temperature in excess;" "a high night London temperature, a small daily range, an absence of ozone, and no electricity." "The three epidemics (1832, 1849, 1854) were attended with a particular state of atmosphere, characterised by a prevalent mist, thin in high places, dense in low." "The barometer was remarkably high." "The night temperatures were high, with small diurnal range, . . . a deficiency of electricity, . . . a total absence of ozone." In 1832, 1849, 1854, "the stagnant atmosphere was prevalent during the time of cholera. . . ." (Appendix to Report of the Committee for Scientific Enquiries in relation to the Cholera Epidemic of 1854—Blue Book, pp. 116, 117).

Here we see that there existed *extremes* of many of the habituated external correlations under which the protoplasm of the communities had evolved. The duration of life, in species and genera, is not a fixed quantity. The protoplasm of different species and genera exists, as individual units, for periods varying in all degrees, from one day in the myriad tropical ephemera to the centuries of the tortoise. Is it not to be expected that the protoplasm of a community should show periodic tendencies to libraation? Assuming such to be the case, we see, then, that the extremes of vito-physical external environment, which I have quoted above, may justly be held as capable of upsetting the essential correlations of an unstable vito-chemical protoplasm.

The history of medical opinion on cholera will, I think, show that we have too often insisted on one or more associated conditions, as potential causes of cholera. It would rather seem that at periodic intervals almost *any extreme*, *any departure* from habituated, and then correlated, mode of environment, is capable of precipitating the poisons or inharmonious motions of cholera in protoplasm.

But in India, where cholera is endemic—*i.e.*, where the protoplasm tends to modes whose results are cholera—the *de novo* evolution of cholera has often followed a great variety of sudden changes—*e.g.*, sudden dust storms (Dr. W. Wakefield, *Lancet*, September 9th, 1884, p. 257). "Rain holding off during the monsoon, cloudy and dull weather, with occasional rain in the hot season, are both, in my experience, conditions under which cholera is likely to make its appearance" (Surgeon-Major Sargeant, *Lancet*, August 11th, 1885, p. 57). Sudden cold rains, sudden heats, still murky sky, out-of-season rains, heats, etc., mere changes of place, etc., have all been followed by the *de novo* evolution of cholera in India. I have already referred to the *de novo* evolution of cholera from changes in food, drinking water, etc., also from mental emotion or shock.

I have, I believe, quoted from the history of cholera in England and India, a sufficiently wide class of instances to convince us that the major Form of cholera cannot be in any one or more external condition, but rather it would appear that the major Form must be sought in the capacities and devolutions of protoplasm.

Thus the methods of observation and analogy go along in the enquiry, parallel with the researches of the chemist on the devolutions of the albuminoids, and parallel with the higher developments of physical science in all that relates to the correlation of the physical energies, which are not only essential conditions of, but parts even, of life. It is impossible to draw a line between chemical and cellular changes; the two are parts of one series. The approximative generalisations I have advanced on the devolution of protoplasm into new modes, motions, and poisons, by means of *changes*, and the coördination of protoplasm from devolution by means of *changes*, are equally applicable to chemical and to the cellular or bacilli theories.

But we are, beyond all else, impressed with the extreme

delicacy of those changes which interfere with the modes of correlation on which life depends; and hence we know how small, yet all-potential, may be the true coördinators of health.

We know of cholera outbreaks ceasing, with very varied changes, as of season, winds, rain, place, etc. The actual physical differences involved in such changes, may be very small, but they are all-powerful for the stable coördination of protoplasm—*e.g.*, in the Kurrachee epidemic of 1846, the wind, which had been "south-west, veered to the north-east, there was a fresh breeze, and the pestilence begun to decline" (*M.C.R.*, April, 1856, p. 301). Dr. French, H.M. 49th Regiment, said: "It has frequently come under my observation in India, that violent storms of wind and rain have, for a time, either entirely arrested or greatly mitigated all the symptoms of the disease" (*op. cit.* 302). Surgeon-Major Sargeant says: ". . . . at Lingusagar, in 1869, cholera ceased with the advent of a high and continuous wind; at Aurumgabad, in 1873, the same result followed the recommencement of rain; and in 1883, in the neighbourhood of Hingoli, cholera disappeared at the same time that the atmosphere cleared and became bright and cheerful" (*Lancet*, July 11th, 1885, p. 57). Mr. Scot reports that "cholera (in Madras) would cease on this appearance of the sky (dull leaden-coloured suffusion obscuring the sun. . . . and attended with a certain chilly feel in the air) breaking up, especially if ending in a storm" (*M.C.R.*, April, 1856, p. 303). Surgeon-Major Welch says: "that when the troops suffered cholera in Malta, the disease ceased when the men were removed but a hundred yards (*B.M.J.*, December 1st, 1883).

We might greatly extend the number of instances of cholera ceasing, with changed environment. It is significant to observe that sudden changes to wind and rain, which have so often precipitated cholera in India, have also often stopped its evolution. But these seemingly opposing facts are in perfect harmony, if we view the major Form of cholera as a devolution on changed molecular mode of protoplasm. The unstable equipoise of protoplasm, may, at recurrent periods, be precipitated into these modes and poisons, which lead to cholera, by almost any change of environment, including the change to wind and rain; but at a later stage of the recurrent instability of the protoplasm of any community, when the poison evolved is less toxic, when the main libration of the protoplasm is much exhausted, it is reasonable to expect that the rain and wind would be conservative of the normal modes of protoplasm. We know that the later stages of the cholera outbursts are less severe in type than are the early stages, and we say, therefore, that then the devolutions of protoplasm are less in degree. We see, at any rate, how exquisitely delicate in amount may be the precipitating conditions of cholera, and not less exquisitely delicate are the conditions capable of arresting the devolutions of protoplasm into cholera.

It was on these analogies, and, in part, deductively, that many years ago I ventured to suggest to the Governments of India that, when cholera showed in a regiment, jail, etc., those *not visibly affected* should be hypodermically injected with a solution of quinine and arsenic in an acid, or by some one of the aromatic class. The idea was that we might thus change that special state of unstable equipoise of protoplasm, which so readily, at such and recurrent times, tended to revert into those motions and poisons whose results are cholera. We may be sure that the apt and effectual coördinator against such devolution of protoplasm will be very small in amount, and that it will be obedient to the laws or forms of vito-chemical continuity.

Bacon says: "But be assured that the prolongation of life is a work of labour and difficulty, and consisting of a great number of remedies, and these aptly connected one with another. For let no man be so dull as to believe that a thing which has never yet been done can be done now, except by means yet unattempted." ("De Augmentis," 4th Book.)

ON OSTEITIS DEFORMANS, OR SENILE PSEUDO-RACHITISM.[1]

By S. Pozzi, M.D.,
Surgeon to the Lourcine.

Continued from p. 90.

The maximum of the projection on the anterior face of the tibia reached six to seven centimètres, below the edge of the condyles. Deformity of the external condyle; its anterior border appeared destroyed; but this appearance might be produced by the osseous tumefaction situated above; its external border a little salient; tibia sensibly larger at the top of the curvature; to the hand it was hot, sensitive to pressure; no souffle or pulsation. She did not suffer much, but felt that each day the leg became weaker; and as she was already notably of *embonpoint*, walking became more difficult, and the projection increased (iodide of potassium internally; mercurial friction; apparatus).

December 22nd, 1872.—The projection of the bone a little increased. In spite of apparatus, persistence of pain on touch.

February 15th, 1873.—General augmentation of the column of the tibia; the external condyle and the anterior tuberosity of the tibia more prominent than on the healthy side; hypertrophy already manifest.

May 5th.—Prominence of curvature lowered. For four years the patient remained in almost the same state. She found herself relieved by the apparatus, which had to be modified several times on account of progressive obesity. At the same time gouty phenomena accentuated; digital nodosities more marked; uric acid and urates in the urine; digestive trouble. Cure at Vichy. I saw the patient again on April 7th, 1877, finding her in the following state:—The increase in bone through its length is much more marked—two centimètres. As regards the thickness of the tibia, it appeared almost double that of the tibia on the sound side; the bone is rugous. The form of the curvature is changed; it is anterior, but the salient point is still lowered. In proportion as the bone is consolidated above, it is thinned below and weakened. Casts taken at various intervals since 1877 allow for this lowering in the prominence, which commenced in 1873. As regards heat, it diminished at the projection where it was previously sensible, and had always its maximum at the top of the most salient point.

On the first of May the state of the tibia was as follows: The internal condyle appeared atrophied, and the external hypertrophied; the condyles of the femur appeared also a little deformed, but the *embonpoint* of the patient did not allow us to be precise on this point. In measuring the

[1] A paper read at a French Congress on Surgery.

length of the tibia at different points of the superior extremity to the malleoli, the following differences were found: From the highest point of the tuberosity of the tibia to the internal malleolus on the healthy side, 330 millimètres; on the diseased side, 350. From the external condyle to the external malleolus—healthy side, 380 millimètres; diseased, 350. From the internal condyle to the internal malleolus—healthy side, 330 millimètres; diseased side, 340. The patient remained in a stationary condition since 1880. The projection is always the seat of a little heat. The patient walks with apparatus, but she becomes more and more incommoded by her *embonpoint.*

Observation 3 (communicated by Professor Ollier under the following title):—*Local Osteomalacia of the Left Tibia in a Woman, seventy-six years—Anterio-Posterior Curvature of the Tibia.*—M. V. N——, seventy-six; no children. Habitual health good; no sign of syphilis; no rachitism in infancy; no fracture; no violent traumatism. About four or five years before she had vague and feeble pains in the left leg; no nocturnal pain. The pain is always diurnal, making itself felt after walking at the end of the day. Rest always calmed it. Chronic rheumatism; digital nodosities; urine nòt analysed. The tibia is curved forward; no brusque angular curvature; the maximum of the projecture is a little below the inferior quarter. At the top of the projecture there is heat and pain on pressure. Complete freedom from pain in repose. Same distance between the condyloid borders and the malleoli on both sides. This patient not wishing to use the apparatus advised, the curvature increased little by little. The pains became stronger, the bone sensibly thicker, but without any tumour. The patient lost sight of since 1876.

These three observations, without offering a complete tableaux of the osseous malady of Paget, suffice to give us an idea of it. Let us here review the principal traits. This affection, generally chronic, begins in advanced age; rarely at the middle period of life. There is only one case known where the disease commenced at twenty-eight years; it is the seventh mentioned in Paget's second memoir (*Med. Chirur. Trans.*, 1882, p. 234). It has an insidious progress, and does not alter the general health; it only reveals itself by a progressive and symmetrical deformity of the skeleton, and especially of the long bones. The lower members are ordinarily first attacked. Treves remarked (*Brit. Med. Jour.*, 1882, p. 1155) that in women the bones of the forearm always suffer, this not being the case in men. This rule is evidently too absolute. The two cases of M. Ollier do not reveal any deformity in the arms of the two women he had under observation. The cranium is often deformed, and considerably enlarged, though there was nothing of this in our three cases. Vertebral column may also be bent, and the pelvis enlarged; the clavicles are often attacked. The most characteristic feature in most of the patients, and in ours in particular, is the augmentation of the curvature of the femur, and the bending of the tibias. It is not accompanied by any weakness in the resistance of the bone. In the initial period pain is often observed taken by the patients for rheumatism or neuralgia; as also an elevation of local temperature, very marked in certain cases, as in those of Professor Ollier. No fever.

The attitude of the patient at the last stage of the disease has something striking and veritably characteristic about it. The sinking of the lower members, and of the vertebral column diminishes the height, and provokes a relative lengthening of the arms which appears excessive. The hesitating walk, the rounded shoulders, the head projected in advance, the prominent abdomen, the legs too straddled, and the knees slightly bent, give to the walk of the subject a resemblance to that of the large anthropomorphic apes. Add to that the hideous character of the cranium often enlarged and bossed, and the aspect of the patient, we have a good idea of the type which Paget has described in a manner not to be forgotten.

If the clinical syndroma is definitely fixed, assuring to this malady a distinct place, we must confess the same cannot be said of the pathological anatomy and the etiology. The chief anatomical facts we possess rest on an autopsy made by Butlin on one of Paget's patients. They are as follows:—No alteration of periosteum or of medullary tissue; thickening of the compact substance of the bone, apparently due to the addition of peripheric lamellae, and having the appearance of hard, porous, or finely reticulated pieces of beautiful coral. In places, islets of dense substance, pale, but as hard as a brick. At the top of the epiphysis it would seem that the spongy tissue was replaced by compact tissue. Under the microscope we notice the diminution of the number of the Haversian system, and dilatation of the canals of Havers, which are filled by a granular, amorphous substance, and round and oval cells resembling leucocytes. The presence of new bone is distinctly seen under the periosteum of the tibia. Recently, several specimens of osteitis deformans have been presented to the Pathological Society of London, by Simcock and Goodhart, the former pointing out the great vascularity of the altered bone, and the state of imperfect organisation of the new osseous substance. In his idea the first phenomenon is absorption of osseous tissue, which is followed by a compensatory new formation, forming a kind of interstitial callus.

Chemical analysis did not reveal anything notable to Dr. Russell, to whom Paget had submitted his specimens. In some the lesions have nothing characteristic, seeming to be allied to chronic osteitis. All that we can deduct is that the disease differs anatomically as well as clinically from osteo malacia and rachitism. The etiology is also vague. The influence of syphilis is notoriously nil; is it so with a cancerous diathesis, or at least a neoplastic diathesis? Sir James Paget has seen cancer three times in his first five patients. Goodhart has noticed once a fibroma of the uterus. Steven Paget, in one patient, a pigmented tumour of the groin; in another, a molluscum. Disease of the heart has been observed several times. But may not these be simple coincidences? We must not forget the advanced age of the subjects who suffer from osteo deformans, and the frequency of cancer and disease of the heart in old people. Gout appeared to have pathological importance much more pronounced, being noticed in a number of observations either in the patients themselves or in their ancestors. As regards rachitis, I have only found one observation where it is noticed in the children or the patient. This relates to a woman who had had two miscarriages and twelve children, many of whom were attacked with rachitis. Scrofula is not mentioned as a cause by any author as far as I know, but I must insist upon its evident existence in the patient under my care. The osteitis of the finger with osseous and synovial fungosities clearly establish this diathesis. It is striking to see its tardy appearance at the same time as the lesions of osteitis deformans. However that may be, the nature of the affection remains very obscure. In the opinion of Paget

we have to deal veritably with a new disease. In proof of this he notes the absence of any old description of it, and the absence of any pathological specimens in the museums. The pages in which the eminent surgeon expresses his ideas on its mode of origin, due to a sort of morbid transformism, are, so to say, buried in an address—the Bradshaw lecture—delivered at an official meeting of the Royal College of Surgeons, December 13th, 1882. I cannot do better than give a rapid analysis of this passage, as it is little known in this country. "There seems to be evidence enough that new diseases are in progress of evolution. Good evidence of this kind is to be found, I believe, in the peculiar joint disease discovered by M. Charcot, in association with locomotor ataxy, and in the disease of bones, to which I have given the name of osteitis deformans. Neither of these, I believe, was described till within the last few years. In twenty-six years I have seen twelve marked cases of osteitis deformans, and about as many in which it was only partially evident. In the last six of these years I have seen seven of these cases, and others have been published, and yet I cannot find evidence that the disease was ever seen by any of those who had a practice like my own. Brodie and Stanley had seen no case but that which I showed them nearly twenty-years ago in the patient from whom these specimens were taken. I cannot find an old specimen in our museums, or a representation of one in any book of plates. Hunter, Howship, Langstaff, Liston, Cooper, and Stanley collected not merely illustrations of diseases well known to them, but whatever was curious. They would have looked on these bones as gems."

CLOTHING.

By Francis Vacher, F.R.C.S.,

medical officer of health for birkenhead.

The philospher of Weissnichtwo, who discourses with so much humour and pathos on *die Kleider, ihr Werden und Wirken*, defines clothing as "the vestural tissue which man's soul wears as its outmost wrappage and overall, wherein his whole other tissues are included and screened, his whole faculties work, his whole self lives, moves, and has its being." This, to the reflective mind, is no inadequate definition, and taken seriously, claims for the study of clothing a higher place than it has even yet received. Doubtless, it is true that thinkers are not so altogether heedless of the matter as they were half a century ago, when the sentence quoted was written. Still, if the body gain importance and consideration as being the vestment of the soul, what attention is not due to the clothes encasing and protecting the vestment, on the fitness and adjustment of which much of the efficient work of soul and body depends! One might almost say that of late dress has become rather a popular subject. Certainly it has been much discussed from an art point of view and from a hygienic point of view, and by rival schools of self-styled dress-reformers, whose main aim appears to be to effect such a change in female costume as may give the wearer increased ease and comfort. The art critics, when they began their attacks, said that dress was never more ugly in form, colour, or material, and the change their teaching has effected in the last decade or two, more especially in the dress of children, is a radical and beautiful change, for which they deserve full credit. The sanitary improvers of dress have been chiefly occupied in running a tilt at corsets, and tight, high-heeled boots, and also advocated the more general use of flannel underclothing; but though they have not been wanting in courage, it can hardly be said they have met with the success they merit. As for the dress-reformers, they joined in the attack on stays and Paris boots, protested against a considerable weight of clothes being suspended from the waist, and proposed dividing the skirt. Up to the present no great results have crowned their efforts, and even among those who approve their advice few follow it.

Are there not, then, instructors enough in respect of clothing—artists to show what is beautiful, experts to decide what is healthy, and enthusiastic emancipators to lead the way to freedom and comfort? What more can be needed? My answer is, all that is wanted is a guide to the guides—a plain, common-sense statement of principles, and brief general indications as to how to apply these principles in the clothing of men, women, and children.

PRINCIPLES.

Wearing apparel is primarily intended for warmth, protection, and decency—it may be used also for ornament, and to conceal defects of form or age, scars, etc. The ornament should not interfere with the usefulness of the dress, and should not be expressed in meaningless buttons and bows, mere contrivances for gathering dirt. For concealment of defects loose-fitting dresses will do much, and a little padding is allowable. The main object being to protect and cover the body, to assist it to maintain an equable temperature, the question is—what materials and make of dress will best secure this? In respect of *material*, the requisites are that—

(*a*) *It should be a bad conductor of heat.*—As the body is always losing heat by radiation, by evaporation of sweat, by conduction and by convection, and the bodily temperature is 98.5° F., so much above the temperature of the air, this is of first importance. Now there is no doubt that materials made of wool take a first rank as non-conductors. The best materials, therefore, are woven wool, knitted wool, flannel, woollen cloth, etc.

(*b*) *It should be pervious to air.*—This is very essential, and leads to the selection of the same materials. Taking the quantity of air passing through flannel and loose woollen fabrics at ten, the quantity passing through linen is about six, and the quantity passing through chamois leather and silk is respectively five and four. Thus silken under-vests and chamois chest-protectors are distinctly contra-indicated. Where there is no free passage for air, there can be no ready outlet for cutaneous perspiration, and the functions of the skin will be interfered with. Well-ventilated clothes are the warmest and most comfortable, while unventilated clothes are as insanitary as unventilated rooms.

(*c*) *It should not be harsh or irritating.*—This is a negative requirement, but it is well that it should be stated, as a great authority (Dr. Jaeger) asserts that clothing should gently titillate and rub the skin, in order to maintain a constant and ample blood supply, and assists the self-cleansing powers of the skin—the shedding of the outer cuticle. It is doubtful if this be sound teaching. Ordinarily, woollen underclothing is not irritating, even in a slight degree, but those who find it so will do well to make trial of a fabric containing some admixture of cotton or silk. Persisting in the use of underclothing which irritates the skin, however slightly, is unwise.

(*d*) *It should wash well and wear well.*—The better the fabric the better it will wash and wear. Poor materials made

of short-fibre wool, or shoddy, and artificially weighted, will neither wash nor wear, and would be dear even if given away. One of the main objections to poor material is that it shrinks, or "thins out" so much in washing, that it is rarely washed; and unwashed underclothing is not properly pervious to air, and conducts away the heat.

(*e*) *It should be suited to the season, and climate, and the age and occupation of the wearer.*—Little need be said under this head. Experience teaches everyone that in our English climate light clothes should give place to winter ones in September, and that those who are careful of their health

"Ne'er cast a clout
Till May is out."

Experience also teaches that one needs warmer clothing in a dry climate than in a moist one—*e.g.*, more in a dry east wind than in a moist west wind, even though the temperature of the east wind be no colder. It is as true that the very young and the aged, and those following sedentary occupations, are easily affected by slight changes in the temperature and moisture of the air, and should be specially warmly clad. The colour of dress material should also be suited to the season and climate, that is, the colour of the material which is worn externally. Putting the capacity of white to absorb heat at 10, the capacity of yellow, green, and blue are respectively 13, 16, and 20. Generally speaking, the darker the colour the more heat it absorbs; therefore white and light colours are best fitted for summer and warm climates. This brings me to the next requisite, that

(*f*) *If dyed, the colour should be innocuous and fairly fast.*—It is a good rule that all clothes coming next the skin should be either white, or unbleached, or gray. Jerseys and drawers dyed "art" browns and greens, and Turkey red, are common and often worn with impunity. Occasionally, however, they cause irritation of the skin, and they should not be recommended. It is of more importance to warn people against a series of dye-stuffs derived from aniline, all of which are distinctly injurious. These, under the names mauve, roseine, fuchsine, magenta, chrysaniline, etc., were, a short time since, much used in dying gentlemen's socks. It was found that wearing such socks was liable to produce local inflammation and eruptions of the skin. For economic reasons it is desirable that the colour of a dyed fabric should be fast; it is desirable also for cleanliness' sake, as a coloured garment that will not bear washing will go unwashed. Occasionally muslins and other similar light fabrics owe their tints to body colours—poisonous preparations of lead, arsenic, and copper, which are readily dislodged in fine particles, and may be carried into the lungs. Finally, a caution should be given against dyes which burn or rot the textile dyed.

(*g*) *It should be strong, and as light as practicable.*—It is obvious that if a material is not strong of its kind it is owing to some defect—it is a shoddy, or has been damaged by damp, or weakened by a caustic dye. Strength is, therefore, often a test of quality. Lightness is also sometimes a test of quality, for inferior goods may be artificially weighted with glue, starch, size, plaster, or clay. I should say that *ceteris paribus* the lighter the fabric the better; that is, if a person be sufficiently warmly clad, the clothing is the best which burdens him with only the minimum of weight.

In respect of *make*, the requirements as to clothing are that

(*a*) *It should cover the whole surface of the body, head and hands excepted.*—This is a simple rule which no sensible person would object to, yet it is not followed. Scotchmen, who dress in the garb of old Gaul, disobey it, and so do ladies who appear in low dresses with V-shaped incisions down the back. The rule is also set at naught by mothers whose humour it is to send their children to walk and play bare at the knees, or bare at the arms. The hypothesis that children's limbs are thus hardened is wholly unsupported by facts. Of the men, women, and children who are exposed as regards knees, arms, and shoulders, some are crippled—some die. The uninjured are strong in that they survive the treatment, not because of it.

(*b*) *It should exert no pressure on any part of the body, and should allow absolute freedom of movement.*—The pressure which is most injurious to the body is undoubtedly that effected by the corset or stays. It narrows the thorax, interfering with the action of the lungs and heart, and displaces and compresses the stomach and liver. But the waist is not the only part of the body systematically constricted by modern dress. The tight Paris boot is as bad in its way as the tight corset, for it cramps the foot, displaces the toes, injures the arch of the sole, and produces bunions and corns. Of late, too, very tight sleeves have been in fashion; sleeves which do not give a lady's arms full play. Also tight skirts, like a single trouser, which hamper the wearer in walking. Garters also come under the description of clothes exerting an undue pressure, and so do tight kid gloves.

(*c*) *It's weight should be properly distributed.*—A glance at the human skeleton will show that there is a strong bone support at the shoulders and at the pelvis. The common defect in male attire is that it is so arranged that nearly all the weight has to be borne by the shoulders; the common defect in female attire is that the weight of the lower garments is thrown on the waist, instead of on the pelvis.

(*d*) *It should be sufficiently short to prevent it from trailing in the dust.*—The train, primarily, was an in-door dress-appendage, designed to give grace and dignity to the wearer, and it would not be fair to say that in this it altogether fails. But ladies were not content with wearing trains in-doors only, the skirts of walking dresses were made to a similar pattern, and the difficulty was got over by making the train into a tail, which could be picked up and carried. Even this form of dress was only dirty by accident, that is, what is carried or hooked up is apt to be occasionally dropped or to come unhooked. However, the humble imitators of ladies, parlour maids, and shop girls, copied the long trailing walking-dress, without copying the arrangement for carrying the tail, and thus it is that gay gowns are seen literally "sweeping the streets." If ladies have not themselves offended gravely, they have been the cause of others offending. The only safe rule to make is that no part of any skirt intended for out-door wear should be long enough to touch the ground.

(*e*) *It should be arranged with due reference to comfort and convenience.*—Comfort and convenience are of first importance in dress, though fashion ignore them, and fashion's votaries make willing sacrifice of them. They are of infinitely more importance than mere prettiness. Indeed, they almost imply suitableness and appropriateness, and are generally safe guides to the individual in selecting. A dress which is uncomfortable and inconvenient will not be healthy, becoming, or artistic. The old practice of making dresses to button down the back is not usual now, but any form of fastening necessitating the use of a dresser is equally unsatisfactory.

(*f*) *It should not be distended with hoops or improvers, or stiffened with steel, whalebone, or wood.*—The farthingale of our great grandmothers, and the crinoline of our own time, now only exist in a modified form as the dress-improver. Is there anything to be said as an excuse for this? What is its use? It has been the fashion to put such a weight of stuff in the back of a skirt that the heat and pressure have become intolerable, and the object of the improver appears to be to afford some relief. Doubtless relief is given, but there would be no need of it if the dress were not weighted with superfluous stuff. Those who use the modern improver will surely not claim for it beauty or grace. See the illustration, an exact copy from a current fashion print. Could

Fig. 1.

anything be uglier? So-called "breast improvers" there is some excuse for, when they are merely used to cover a distinct deficiency, or the wasting due to age. Stiffeners of steel and other material are not used for corsets only, but also in dress bodies and skirts. There is no necessity for them, nor any good excuse. They are as out of place in a woman's dress as they would be in a man's.

(*g*) *It should be reasonably simple, and easily put on and off, and not in excess of what may be sufficient for warmth and protection.*—Clothing made to lace or button down the back, or with hooks and eyes in this position, is objectionable. Not so long ago it was a common practice to make young girls' dresses in this way, so that they could not be fastened by the wearer. Even more objectionable are plaits stitched down, and flounces, and knots, and useless buttons, which are so many contrivances for collecting dust. Indeed, all this is so obvious it goes without saying.

Having thus concisely noted what I take to be the principles which should be followed in selecting material and prescribing the form of wearing apparel, I pass on to the practical part of my subject—the application of the principles set forth. This will be best considered under three heads.

Clothing of Men.

As a general rule the dress of men is more in conformity to hygienic requirements than the dress of women. Still, in some matters, there is abundant room for improvement. First, the boots ordinarily worn by men are more or less pointed at the toes, and too narrow throughout. The result of wearing such defective boots will be seen on reference to the cut (fig. 2), which shows the sole of the natural foot, by

Fig. 2.

the side of the sole of the foot of an adult long accustomed to the use of tight boots of the conventional shape. The skin of the sole is compressed into folds, which may become fissures exceedingly difficult to heal; the second toe (or sometimes the third or fourth) is displaced upwards, and the first metatarsal bone is displaced sideways. The pressure of the upper leather on the proximal end of the displaced bone may cause a bunion, while the pressure on the toes is usually sufficient to produce corns. I am of opinion, also, that this pressure of the upper leather, especially if the boot be too short, is the main cause of ingrowing of the great toe's nail. Square boots, sometimes recommended, made to fit either foot, right or left, really fit neither, and cannot be satisfactory. What then is the proper form for a model boot? I would say that it should be the shape of the natural foot, elastic especially at the waist, large enough to allow for expansion of the foot in walking, and that the terminal margin of the sole should be a curved line corresponding to the curve formed by the toe-ends. Except where the deformity is very great, a foot properly clothed will, in great part, recover itself. Boots should be high enough to reach, at least, an inch above the ankles, and should fasten with either laces or buttons. When practicable, boots should be made to order, as there is no constant ratio between the height of instep and length of foot, or between length and breadth. The socks should be of merino or light woollen material, and they are certainly the better for being digitated, each toe being thus specially provided for, and clothed all round as each finger is in an ordinary glove. The drawers and jersey should also be of light woollen stuff, made to fit the body, but not so closely that the fabric is on the stretch. The jersey should reach from the vertebra prominens to the coccyx, and should have long sleeves; the drawers at the top of the band should be a little above the crest of the ilium, and should overlap the

socks two or three inches. What may be called the first layer of clothes should be undyed. Socks without dye are, however, difficult to procure.

I should not have thought it necessary to warn men against using stays, but for the information conveyed in a price list which recently came into my hands. The list is issued by a well-known London firm, styling themselves *artistes en corsets*, and in it I find that in consequence of the increased demand for corsets by gentlemen, "we have been induced to give this department our special attention, and we feel sure that we shall be able to meet thoroughly and efficiently a want that, up to the present time, has been neglected;" and then follow instructions for self-measurement, the whole being embellished with a picture of a handsome man, with a moustache, wearing stays. Of course stays are every bit as objectionable for men as for women. Indeed, everything that constricts the abdomen or thorax, it matters little under what name, is injurious. The broad belts, fastening with straps and buckles, commonly worn by artisans, runners, and hunting men, are almost as bad as stays, weakening the abdominal muscles, and assisting in the production of rupture.

If the underclothing be sufficiently warm, there can be no possible objection to the use of linen shirts. Dr. Jaeger's word has gone forth against them, and many accept his ruling, and condemn them. But the comfortable white shirt will survive stronger attacks than have hitherto been made on it. The neck opening should be amply large, with collar attached. Shirts should be made to measure, like cloth clothes, and may have any pattern of collar desired. Plain turned-down collars are the best, and close-fitting high "dog" collars the very worst. Shirts with collars attached are infinitely more agreeable to wear, and there is this advantage that they are certain to be changed with sufficient frequency. Working men doubtless will find flannel shirts more convenient, and such shirts are best fitted for boating, hunting and out-door games. They should be made with turned-down flannel collars. Linen or paper cuffs and fronts and collars masking woollen shirts are neither beautiful nor useful. As for collars of cellulose or enamelled steel, they are most of all objectionable.

It is scarcely beyond the truth to say that men have attained to something near perfection as regards cloth clothes. What could be better, from the point of view of healthiness and convenience, than the modern morning dress? the trousers neither too tight nor too full, the waistcoat buttoning high up, and a coat fitting the body exactly, and buttoning down over the waistcoat. When this coat is changed for a frock coat, the dress is still as nearly perfect as possible. Of course, if the morning coat and frock coat are left open, they flap about, and let in the cold air under the waistcoat to the abdomen and loins. However, if people will not wear their clothes as they are made to be worn, it is not the fault of the clothes if they catch cold.

One cannot speak as highly of evening dress, for it is a long way from perfection. Still, most men look better in it than they do in anything else. It is popular, and has withstood many attempts to alter it. The reformer will waste his time in advocating a radical change, and he will do better to make suggestions for the correction of hygienic defects. What are the defects of men's evening dress? First, the material is invariably too thin. This fault is readily amended by a simple flannel lining, which may be added to any suit without interfering with the fit of the clothes, or the freedom of movement and comfort of the wearer. Secondly, the very low waistcoat leaves the chest covered by the jersey and shirt-front only. This is remedied by wearing a large "chest protector" over the jersey—that is two layers of thick flannel at least three inches broader and longer than the waistcoat opening. Wearing a chest-protector next the skin, made of wash-leather, etc., which gets very foul, is a practice justly condemned; but there can be no objection to a double layer of flannel immediately under the shirt-front. In the third place, dress boots are generally made so tight that only thin silk or cotton socks can be worn under them. A very slight increase in the size of boots will make them large enough to go on over merino socks. Having the boots well stretched may be all that is needed. It has also been said that the light muslin tie which replaces the silk scarf of morning dress, renders the wearer specially likely to catch cold. If this be so, the white tie can be made heavier by folding a strip of flannel within it.

As regards great-coats for ordinary wear the best pattern is that known as the "Chesterfield." It is neither too tight nor too loose, and being about the length of a frock-coat, is comfortable for walking in. For driving, there is nothing to equal a stout "Ulster." For evening wear, over a dress suit, I recommend the "Inverness" cape.

There is no use writing anything condemnatory of the silk hat. Whatever be written it will still be worn for some years to come. It is not such a bad covering for the head if it be light and ventilated and fit well. In choosing a hard felt hat, the same requirements should be insisted on. I incline to think that the soft felt hat (commonly affected by clergymen) comes nearer perfection than any other hat I have had experience of. It is cool and light, and keeps the sun out of the eyes; does not get out of shape, is most portable, and uninjured by rain.

Little requires to be said about working men. Their working clothes are usually warm and durable; their waistcoats are high, and they wear stout neckties. The belt so commonly worn round the abdomen I have already referred to—anything of the kind tightly fastened is most objectionable. Workmen, too, have a habit of strapping up their trousers to keep them out of the dirt. The straps are worn below the knees, and are, of course, as injurious as garters in the same position. For men who work in their coats, a tunic, made like a shooting tunic, is better than the open coat. All engaged in occupations which foul the clothes, should use overalls.

CLOTHING OF WOMEN.

In discussing men's clothing, the boots were first considered. The same order may be followed here. Women's boots have all the defects of men's boots; they are pointed at the toes, too narrow throughout, and too tight, besides which they have the additional defect of being made with heels which are too high and occupy a wrong position. Thus the woman's foot is injured, not merely by compression and having the toes jammed together, but by being placed in a position which resembles that of *talipes equinus—vide* Fig. 3, showing a foot in a modern French boot. The wearer of such a boot perforce walks on the ball of the foot; she is constantly in the uncomfortable position of a person descending a steep incline. Nay, worse than this, for the heel of the boot not being under the heel but under the

arch of the foot, the arch is weakened thereby, and may yield, producing the deformity known as flat foot. Then, the balance of the body being difficult to maintain, there is unsteadiness of gait, and excessive strain is put upon the ankles. It follows that the woman's walking power is much diminished, and she probably walks as little as possible; thus many of the evils of want of sufficient exercise may be traced to high-heeled boots. It may be remarked also that

Fig. 3.

such boots are likely to catch in any slight projection, and throw the wearer down, perhaps breaking a limb or causing a fatal injury. As there is no anatomical difference between the foot of men and women, all that is necessary in men's boots is equally necessary in women's. However, it seems specially needful to impress upon women to see that their boot soles are broad enough and thick enough.

It is well to wear woollen garments next the skin. The stoutness or fineness may be regulated to suit the wearer and the season. One advantage of having the stockings digitated, will be that the wearing of light pointed-toed boots will be rendered impossible. Stockings may be kept up by suspenders, but there is no harm in gartering them above the knees, as the tendons on either side guard the vessels from pressure. Woollen clothing covering the body from the neck to below the knees, and with sleeves reaching nearly to the wrists, may be obtained all in one piece (resembling the male bathing dress used in France); but there is no special advantage in this, and the underclothing is as good in every way in two pieces as when combined. As the chest and abdomen require more warm clothing than the limbs, a long vest, extending from the neck to the coccyx is needful. There is no objection to this being put on first. The linen chemise may be dispensed with, but in no case should it be worn next to the skin. Then come the body, or bodice, and knickerbockers. The material of which these are made is unimportant. The bodice should fit the body neatly, at the neck being an inch or more above the collar-bone, and below being three inches lower than the crest of the ilium. The lower margin overlaps the band of the knickerbockers, which at the back should cross the fourth lumbar vertebra, and pass outwards and forwards, slanting gently downwards. The weight of the knickerbockers and of the petticoat, if one be worn, is thus thrown on the pelvis. Many petticoats are certainly superfluous, and a divided skirt, which may be made of flannel or woollen cloth, will do away with the necessity for one. Finally, there is the body and overskirt, making the dress proper. Let this be as simple as possible; there will yet be room for invention and the display of good taste. In any case it must not be stuck over with bows and knots and useless buttons, or pulled up into a bunch at the back. As for the divided skirt, let no one be afraid of that because it is a pronounced imitation of the male dress, and conspicuous. It is nothing of the kind. A lady might wear it for years, and her neighbours and intimate friends be ignorant of the fact. Indeed, it is the simple truth that it is worn by numbers of ladies without the knowledge of their friends.

Ladies' evening dress is more open to censure than their morning or walking dress. The other day I was looking through the fashion prints of *La Belle Assemblée*, published in 1819 and 1820, and I saw costumes designed for the opera and the ball-room, fitting the figure, and graceful, and modest. Why cannot ladies go back to such dresses? They are infinitely more beautiful than the dresses now worn. Being shorter, and higher in the neck, and obviously not tight anywhere, they must have been comfortable and healthy. The present evening dress is almost the worst conceivable. The shoulders, upper part of the chest and back are simply nude; from this to the waist the clothing is far too scanty; while below the waist is a burdensome profusion of dress material, which is a mystery and a marvel. Here is a frigid zone, and a temperate, and a torrid zone. Will no lady come forward and teach her sisters how to equalise the bodily temperature? As I write, the news reaches me that the Queen has approved of high dresses, and a full description of the new approved dresses is about to be circulated from the Lord Chamberlain's office. If the Court would also lead in disapproving of stays, and improvers, and long trains, all the changes desired would soon be effected. It is unnecessary for me to enlarge upon the evil effects of wearing stays—the subject is threadbare. Every well-formed woman has a waist of the shape indicated in fig. 4, and the effect of tightening up this day by day in

Fig. 4.

a corset is to compress it from side to side, and make it nearly round. This interferes with the action of the lungs in much the same way as fastening the handles together would interfere with the action of the bellows. Beside the contraction of the thoracic cavity there is the displacement of the abdominal viscera, giving rise to various complications, and the wasting of the muscles covered by the stays. If a leg be bandaged in splints the calf muscles waste, and if a chest be bandaged in splints the thoracic muscles waste; and thus the stays wearer complains of a weak spine, and says she absolutely needs the support of the stays, which she will not recognise as the cause of the weakness.

The form of jackets and coats for out-door wear depends so much on the fashion of the day that remarks upon the subject must be general. The short all-round shoulder-covers cut off square some inches above the waist, are not graceful, interfere with the action of the arms and unduly

heat a small portion of the body. As bad or worse from almost every point of view is the "dolman." For general wear nothing suits better than a rather long jacket or paletôt conforming with the lines of the figure. A long loose cloak, easily put on an off will be found most useful, and an Ulster with a hood, is almost indispensable.

Millinery is also ruled so much by fashion, that it is vain to lay down precise rules. In a little book I published five years ago, I figured what I considered the most perfect form of bonnet and hat. However, ladies do not order bonnets or hats to fit them, but select from specimens in a show room. I would suggest to ladies thus making a selection to remember:—(1) That the purpose of a bonnet or hat is primarily to afford protection to the head. (2) That every covering for the head should be securely fastened on, and not carry too much sail. (3) That the trimmings, flowers, etc., should not be put on with too lavish a hand, or all form may be smothered in a confusion of meaningless decoration. As a rule bonnets are better than hats for adults, still there are exceptions. An extravagantly large hat, as the "Gainsborough," looks pretty enough as a back-ground to a sweet face in a picture, but how would such a hat look from the rear? Less inconvenient to the wearer, but as bad or worse are hats ridiculously too small, stuck on the back of the head, or on the front of an artificial top-knot.

It may be added that a good bonnet or hat should afford some shade to the eyes, and should not obstruct the hearing.

CLOTHING OF CHILDREN.

Many of the defects noticed in the boots worn by adults are almost as often seen in children's boots, yet it is of first importance that a child's foot should be kept warm and dry, and have room to move and grow. A child's feet are undeformed; let every care be taken that the first boots do not begin the distortion already referred to. The boot should be made to fit the foot on the lines laid down, the sole being *too large*, to the extent of a third of an inch in length and a sixth in breadth. A toe-piece about an inch and a quarter deep is of great service in protecting the foot, especially during rough games. To prevent the oblique displacement of the great toe, it has been suggested that a separator might be introduced between that and the next, as in the classic sandal or the Japanese shoe. However, there need be no fear about displacement of any of the toes if the boots be properly shaped and wide enough. Children need digitated socks as much as adults, except in the case of mere babies. All children, boys, girls, and infants, should wear woollen material next to the skin, up to the neck and down to the wrists. Combination garments, or little drawers and jerseys, may now be had of all sizes. Happily, nude knees and bare arms are not now in fashion—a fashion that has caused more lamentation and weeping than King Herod. What comes next is of little importance, provided that it be light, and easy, and warm. There is plenty of room for parents to display their good taste. Many of the costumes now most in favour for children are comfortable, healthy, and graceful. After the "first layer" of clothing, I recommend a long waistcoat of stockingnette web or flannel, and usually all that is needed beyond this comes under the head of costume. For a boy, let me suggest the familiar sailor dress; for a girl, what can be better than knickerbockers, a waistless jacket, and kilted skirt? Hats and caps may be of almost any form, so long as they are light and warm enough, and shade the eyes from the sun. Straw hats are convenient and pretty, but as much cannot be said of the enormous bonnets now worn by little girls. These bonnets are really the most objectionable of modern innovations in children's clothing. *Vide* fig. 5, which repre-

FIG. 5.

sents a child's head in one of the grotesquely huge bonnets. It presses somewhat on the crown, covers over the ears, limits the wearer's field of vision, catches the wind, does not fit the head, and is a prodigy of ugliness.

Is there anything special to be said about infants? As a rule the infant is too abundantly clothed. At least it would be the better for the absence of that proto-garment—its broad flannel bandage. Mothers and nurses believe in this religiously, just as writers on "art dress" believe in the Roman toga and the Greek chyton, but such faith is misplaced. If put on loosely it overheats the child, if put on tightly it compresses the thorax and abdomen. Next, there are the "long clothes," which are objectionable, if for no other reason, because they put restrictions on the free action of the legs. The long flannel petticoat is usually folded under, wrapping up the legs as in a parcel, and the long clothes over this hang down, as if to give the nurse a firmer hold of the infant. Of course anything which does not allow a baby ample space to breathe, cry, kick, and roll about, is bad. It is hardly necessary to point out also that the change, come when it may, from long clothes to short clothes, is not without grave risk, and that many an infant thus catches its first bad cold, perhaps its last too. The problem, how to cloth a baby is a very simple one. Let its things be of woollen material, woven or knitted, and let them fit. Everything should be of wool, but the bibs and diapers, and these, I may remark, should be washed, *not merely dried*, when they are wet. On the much debated question: caps or no caps for babies? I decide for the caps. Little heads like little chests, are very susceptible to cold, so it is a reasonable precaution to give an infant a light cap till nature provide one.

Special Articles.

MICROBES AND ANIMAL ALKALOIDS.[1]

By PROFESSOR PETER, PARIS.

THIS lecture may, if you please, bear the alternative title, "The Rise and Fall of the Microbian Empire." Years ago I attacked the microbe when it reigned supreme

[1] An Inaugural Lecture to the Course on Clinical Medicine.

as lord paramount over every form of infectious disease; to-day I again speak on the well-worn theme, but it is to tell how its power has waned and its influence faded away.

You will have scarcely forgotten that two years ago I showed how the implacable partisans of localisation had become the equally intransigeant supporters of generalisation. After having located a given disease in an organ, then in some part of its parenchyma and, later, in its elementary cells, they had finally displaced it altogether, and found in the alien microbe the very source of the evil. Let us take, for example, pneumonia: it used to be regarded as a fever "*febris peri-pneumonica*"—that is to say, a disease affecting the system generally, but with a special morbid localisation in the lung. Then, pathological investigation made it an inflammation of the lung itself, and the discoverers of the plastic exudation said, "Behold the disease!" but they had mistaken the result for the cause. Later, under the influence of more recent views, the investigation became microscopic, and the pneumococcus was discovered, and "Here at last," they cried, "we have the cause of pneumonia!" Very well: if the pneumococcus is the infecting agent, then a disease so engendered must be general, and we have come back pathologically to the point from which we started! But, from some cause or the other, the pneumococcus may become an endocardococcus or a meningococcus—producing endocarditis or meningitis—and so we see how the specific agent ever carries us farther from specificality—and that way madness lies! Now we are in the presence of another transformation of the same kind: solidarity passes into humoralism, and the microbe is the connecting band. The coccus is not dangerous in itself, but only through the alkaloids it generates in the humors of the body. The parents of micro-biology proclaim "animal alkaloids," and by this Abrahamic sacrifice murder their own offspring!

With untiring industry, with the most laborious minuteness, the microbe of rabies has been searched for, but in vain. But rabies is infectious, and leaving aside the microbe, they have seen, or fancy that they see, in the spinal cord of a hydrophobic animal a soluble poison, which they term "chemical vaccine." But how, by what has it been produced? Surely, without the aid of any microbe; then, indubitably by the cord itself. What! the spinal cord generate poisons? You take a fragment of such a medulla, and inoculate a rabbit with it—the latter dies. But if you previously dry it for forty-eight hours at a temperature of 35° cent., and then inoculate, the rabbit lives; and if, shortly afterwards, some of a fresh rabid cord is injected into the same animal, it still lives unaffected—it has been "vaccinated." But why? by the action of some living agent? No, certainly not, but from the effects of a chemical one. The poor microbe, it seems, is *in extremis!*

That which in earlier days won the triumph—as remarkable as it has been ephemeral—of the microbian theorists, that which made us accept the theory itself with credulous enthusiasm, was the simple fact of the indefinite growth of germs introduced into the system by some solution of continuity. It is enough, said they, to take a drop, a droplet, an atom of the poisonous fluid, and inoculate it, to initiate a growth of micro-organisms, with the result of the blocking of the vessels of the most important of our organs, and from that all the disasters we are familiar with; and it is thus, they explain, it is that so minute a quantity of a liquid (of a *liquid*, mind you) can infect the whole mass of the body. Superficial thinkers were fully satisfied; I am thankful to say, I was not. For to-day, the germ theory has been thrown overboard, and we now talk of phenomena due to the presence of poisonous alkaloids. The virus reacts, we are now taught, qualitatively not quantitatively; like that of a grain of musk, which, placed in a room, fills the whole space with its odorous emanation without losing an atom of its own weight. But this is a sad disillusion. The mystery of disease had been so charmingly solved by the intervention of the microbe; and now the animal alkaloids have come to thrust us back once more into utter darkness.

Let me again try to make it perfectly clear, as I have endeavoured to do already, that the microbes are only the *porters*, the carriers of disease and of the poison. It is not in the air that we now try to capture the pathogenic germ, but in a *drop of liquid* taken from an infected patient. It is the liquid, then, which inoculates, a poisonous fluid containing microbes—yes—*but alkaloids as well.* We take a series of broth-cultivations, and each in succession is less virulent than the last. Inoculate with the weaker, and the recipients show themselves refractory to the effects of the stronger; that is to say, we have mithridated (habituated to poison) the subjects experimented upon—just as a smoker, who is half poisoned by his first cigar, becomes quickly insensible to the action of nicotine in the succeeding ones. But—*the bacteria of the tenth cultivation are* MORPHOLOGICALLY *identical with those of the first; they have only ceased to be so* PATHOLOGICALLY. They have been deprived of *something*, and it is exactly that *something* with which they were impregnated which made them virulent; and it is thus that we can explain why the bacteria of the tenth cultivation should be harmless, or nearly so.

There are other facts no less conclusive. Koch, of Berlin, discovered the so-called bacillus of cholera; and then, having taken choleraic discharges and cultivated them, he found that the bacillus was inert if the intestines were healthy. But this same bacillus could be made—by certain artifices of cultivation, Loewentel proved—again virulent. Therefore, as this bacillus can be made to lose and then to regain poisonous activity, it is clear that the property is not innate, but borrowed. The procedure is simple: Loewental took the harmless cultivation of the "virgular" bacillus, and planted this in a paste made of flesh, pea-flour, and pancreatic juice—that is, in a kind of artificial intestinal soil, and in this way it became as choleraic as at first. So, cultivated in broth, it loses its lethal powers; cultivated *à la* Loewental, it recovers them; therefore, it cannot be in itself poisonous.

Now, let us see how the action of microbes has been explained. By some it is by gemmation, acting by their mass, mechanically. By others, it is traumatic, a destruction of the living cells, such as those of the kidney. Or, thirdly, by a more delicate physiologico-chemical action, robbing the hæmo-globulin of its oxygen, and so occasioning asphyxia. Be that as it may, according to all these hypotheses, the microbes acted *per se*. But, according to others, and now Koch amongst them, the bacillus acts by means of the animal alkaloid it separates. This is evolution, indeed; but such an evolution is suicidal. After this, cannot we explain all these pathological processes without the help of any microbes at all? Strauss has demonstrated that there are fulminant cases of cholera in which one finds few bacilli, or none. The explanation is the very simple one that the patient dies before the bacilli have had time enough to make their appearance.

Very well; when they do not exist, how can they be said to be the authors of the evil? And when there may be so few in the gravest of cases, and so many in the slightest, how can one accuse them of causing that gravity?

Once more, in phthisis, one again finds the bacillus of Koch, only it is the "rectilinear," swarming in the chronic cases but extremely few in the acute. It is clear, therefore, that it is a later visitor, and we find it existing as a witness, not as an accomplice, still less as a malefactor. And then there is miliary tubercle, in which microbes do not appear until the second or third generation. We have, therefore, virulent diseases without any microbes, some with few, and others with a great many—yet all alike fatal. The microbes were said to be the generators of disease; and we have hydrophobia, assuredly a transmissible disease, and yet without a microbe!

Peyrand, of Libourne, has tried to discover if there be in the vegetable kingdom substances analogous to the alkaloids of the animal, and he found one in the oil of tansy (*Tanacetum vulgare*). Injected into animals it produced symptoms simulating rabies; he observed, also, that chloral impeded the development of these symptoms, therefore he treated a lad who had been bitten by a mad dog with injections of chloral, and the disease did not develop. Going a step further, he inoculated animals with gradually increasing doses of oil of tansy until they became habituated to it; then he injected the virus itself: it had no effect whatever. Of the genuineness of the latter there could be no doubt, for it was taken from the spinal cord of Berger, who died in Bordeaux from hydrophobia six months after he had been "successfully" treated in Paris. So, this "simili-rabia" acted exactly like Jenner's "simili-variola," and preserved from the graver disease; and he found, too, that "intense" doses of the oil, so far from acting as a prophylactic, actually hastened the effects of the poison of hydrophobia.

I have used the term "animal alkaloid" several times, and should explain its meaning. We are indebted to Gautier for the discovery of certain bodies, true poisons, which are formed during the vital transformations of the living healthy cells. He gave them the name of "leucomaines." In the very act of living, he shows, we develop poisons which would lead to auto-pythogenia (*πύθων-γεννάω*) at all times, if we had not the power of getting rid of them by excretion. When they are not so removed we have uræmo-typhus (uræmia), cholo-typhus (fatal jaundice), athero-typhus (ulcerative endocarditis), puerpero-typhus (puerperal fever), and so on. Gautier has isolated the very agents themselves—alkaloids which the healthiest of us are ever producing and excreting, such as *xantho-creatinina* and *cruso-creatinina*. The great point of interest is that these poisons are not the result of morbid, but healthy cell-life, exactly as the cobra secretes its terrible venom from healthy gland-cells; and he has shown, also, that these poisons exert their lethal powers precisely in the way in which bacterial ferments do. Their presence has been demonstrated in the breath by Brown-Séquard and Arsonval (*vide* PROVINCIAL MEDICAL JOURNAL, March, 1888), and also in the perspiration and urine, without any trace of accompanying microbes. The saliva itself is, we know, sometimes poisonous, and it would seem that in the dog this may be induced by excessive excitement of any kind, but especially ungratified venereal. The unwholesomeness of fish during the spawning season may be due to this cause, and in India fish commonly eaten are known to be poisonous at that period. [May not this have been the source of our own venereal poison?]

It is the current coin of science to say that "the air is full of germs," and that these germs are the agents of contagion. Strauss, by exact enumeration, has shown that everyone of us walking in our hospital wards inhales 609 bacteria at each inspiration; and expires—exactly ONE! But, not to be too scrupulous, suppose we say 600 only. Now, at twenty respirations per minute, that amounts to 17,280,000 every twenty-four hours. Why, we may be said to live upon them. The lungs, according to Strauss, act as filters, and return the air bacteriologically pure, and I would add most *alkaloidically impure*, and that is of some importance, for we have seen that these respiratory alkaloids are poisonous.

And now we can estimate the almost omnipotence of vitality. I pass some hours every day in the wards of this hospital, and I breathe an atmosphere loaded with the germs of pneumonia, of phthisis, of typhoid, and yet I escape every one of these maladies. Is it because my sound organism does not "care to be ill" that it is so refractory? And thus, in the very presence of the microbiologists, we return to the old theorem of "predisposition to disease," that is to say, we only become ill when we are ill already.

Now, after speaking of unassailable lungs, let us see how open wounds behave towards these disease germs. That which Strauss has demonstrated in reference to the former, Le Fort has proved regarding the latter. "Wounds suppurate because they have absorbed the bacillus of suppuration," and, therefore, we have Lister's treatment, which aims at the placing of an impassable barrier between them. Now, without denying that this system has been of great service in surgery, let us recall the fact that it is the system of *rest*, and that it compels surgeons to carefully wash their hands and instruments. Its text is "The fear of the microbe is the beginning of cleanliness."

Le Fort will not admit the influence of aërial germs; to him the cause of mischief is contagion from the fingers of the surgeon, his sponges and instruments. To prove that the air has nothing to do with it, he leaves his patients at the Hospital Necker with their wounds freely exposed. To avoid accidental irritation only, he covers them with a wire cage under the bed clothes, and nothing else. Three amputations of the thigh, three of the leg, and a resection of the elbow have been treated thus, and they all healed without suppuration, and by the first intention. More than that, he took a platinum wire, sterilized in the flame of a spirit lamp, and transferred some of the lymph from these wounds to the usual media, and obtained beautiful cultivations of *stafilococcus albus* and *aureus*, and some even of *streptococcus*, which is the specific germ of erysipelas, and yet none of these wounds suppurated, nor showed a trace of erysipelas.

We were speaking of the resistance-energy of the organism. Metschinkoff has given us an original explanation of its mode of acting. Healthy cells, according to him, devour the dangerous germs, and so render them innoxious, exactly as a crab gets rid of offensive matter by eating it. Every organ is provided with "phagocytes" (germ eaters) of various kinds. Some are the tissue cells —these are "macrophagos." The others are the leucocytes—these are "microphagos"—which reminds us of the story of the man who had two openings, one large and

one small, cut in his stable door, one to admit the cat and the other the kitten—but between them the slaughter is incessant and terrific; so Homeric, indeed, that it needs a new Batrachomyomachia to adequately describe it.

It is some time since Robin declared that a micro-organism is only dangerous when it has emerged from an infected bed. The bacterium of carbuncle is not itself harmful, but only because it comes from a carbuncle wherein the poison lies. Bouchard and Charrin have filtered pyocyanic cultivations through porcelain (biscuit) so as to separate all organic corpuscles, and the fluid inoculated in minute doses in rabbits rendered them refractory to the original poison. Bouchard has obtained the same results with the urine of the rabid animals, the kidneys having acted as bacterial filters.

Immunity can only have practical value from its duration; that which is limited to a few days is only of laboratory interest, like the famous anti-cholera vaccination, which served for two days, but failed on the fifth. For animals, one which lasts a year or two, since they must then be slaughtered, is enough, but not for human beings. But has the mortality of rabies diminished since the use of the so-called anti-rabic inoculations? Certainly not; it has increased. Berger died six months after his inoculation, and Sinardet expired amid hydrophobic convulsions twenty-seven months after it. Do you clearly hear me? *Two years and a quarter* after his cure in the laboratory of the *rue d'Ulm*. Who can tell, then, what may be the fate of those so treated in 1886-7-8? These scientific experiments—these "vaccinations"—animal or chemical, performed so beautifully by our most eminent men, are deeply interesting; but are they of the slightest practical use to mankind? I venture to doubt it.

In the course of my medical career, which is a pretty long one, I have witnessed the glory and the decadence of many theories. I was at the death-bed of the theory of Broussais, which bound the gastric hypothesis of van Helmont to the radiants of Willis and Rega; I enjoyed in halcyon days the theory of specific numbers; then the embolia of Virchow carried us back to the regional errors of Boerhave; later on, everything was due to reflex action; and now we have hardly had time to congratulate ourselves on the birth of the microbe, when we are called upon to replace it by animal alkaloids. Once more we have drifted back from solidarity to humoralism, and experience has converted me into a philosopher.

Nevertheless, at the base of all is progress, for every theory reflects, like a prismatic mirror, a part of the truth. Broussais bequeathed us irritation; the numerical theory the germ of our instruments of precision; to Virchow we owe embolism; to Claude Bernard our more exact neurology; and to the microbians, the virtue of cleanliness. Thanks to them; how many people have learned how much better it is to be clean than dirty, to appreciate the excellence of pure water, and the advantages of wholesome food.

The error has been too great a fondness for generalisation, for, believing that every theory reflected the whole of the truth, it is for us, for you, to attempt to combine these fragmentary images, to bring into one focus the scattered rays of the clinical spectrum, and with such perfect fitness, in such balanced order, that of the result we may say "*Magna est veritas et prevalebit?*"

G. F. Cadogan-Masterman, M.D.

HEALTH RESORTS OF THE WORLD.

XXVIII.—SOMERSET.

WITH SPECIAL REFERENCE TO WELLS.

By Alfred J. H. Crespi, of Wimborne.

Somerset, the land of the ancient Sumorsætas, has always been remarkable for its verdure and fertility. Like Dorset, the land of the Dorsætas, Somerset was not a district governed by a chief central city in the fashion of Worcester, Hereford, Warwick, Gloucester and Stafford, but was peopled by a tribe having no important towns. From the departure of the Romans to our times matters have remained little changed, the towns are many, but small and little known: there is no large central place, which from its superior importance overshadows all its neighbours. Bath, certainly, is a city of great antiquity and considerable population, but it is at the very extremity of the county; while Wells and Glastonbury, which are more central, never were accessible, and at one time must, for months every year, have been cut off from the rest of the world by floods and marshes. Of late years the coast has become better known from the growth of several pleasant enough towns, Clevedon, Weston, and Portishead. But in this article I do not propose describing these three little towns; I shall rather deal with a district that in many respects has no equal in the kingdom, and which though the centre of much ecclesiastical life and activity, is not visited as it deserves. I have known Wells for thirteen years, and I have made two long visits to it, not idle visits, for I think I may claim never to be idle, but busy, with much to do and see, and at other times I have stayed at Weston, Clevedon, and Portishead, so that I can claim to speak with some authority of all parts of the country.

With a few exceptions, such as Lincoln and Durham, our English Cathedrals and Abbeys generally stand in rich and fertile valleys, near sparkling streams, where art uniting with nature the most lovely effect is obtained. This is true of Wells and Glastonbury, of Llanthony, Tintern, Gloucester, Tewkesbury, Worcester, Bath, and Valle Crucis. Generally speaking these time honoured edifices are surrounded by a beautiful setting of hills to which they form the central brilliant. Every visitor to the magnificent memorials of the zeal and self-sacrifice of the monks, who flourished during the great ages of the Catholic Church, must I think come away feeling more kindly and tolerantly towards the patient and studious recluses, who in times of violence and cruelty, kept alight the lamp of religion, succoured the weak, and offered a peaceful asylum to the disappointed and oppressed. An almost painful effort is required to picture the age of St. Anselm, whose life has been so gracefully written by Dean Church, and who was adjudged by Dante, never lavish but always just in apportioning praise, worthy to rank with the noblest of his contemporaries. When St. Anselm wandered from Aosta, in Northern Italy, and took refuge in the Norman Abbey of Bec, then at the height of its power and glory, the cloister alone promised a quiet home to the timid and retiring student. In those days might was right, and woe to him who could not enforce his claims. War ran riot, and human progress was necessarily slow and uncertain, indeed the wonder is that anything durable or great was accomplished amid such conditions. The Church of Rome was the only barrier against universal licence and spoliation, and but for her England might have sunk into a barbarism little less pro-

found than that of the North American Indians of the time of the Pilgrim Fathers. It is the custom of a certain school to talk contemptuously of the monks, to deny them the sense of beauty, and even to speak of them as chancing to alight upon beautiful sites, and rearing great ecclesiastical buildings the loveliness of which they could not appreciate, to compare them in short to the honey bee, which, guided by an unreasoning instinct, weaves its delicate tissue of fairy cells. Can anyone who knows and loves our mediæval churches as they deserve, accept such a fable? It is no more possible that a Congo Negro, or an Eskimo fisherman could produce a second Divine Comedy, or a fitting companion to Paradise Lost, than that rude, coarse and sensual men should have designed and executed such miracles of art as Tintern, Lincoln, Ely, and York. In those almost unknown and more than half forgotten masters of architecture the sense of beauty must have been developed in a preëminent degree; they were equally remarkable for untiring patience and industry, to which we, with the command of almost perfect mechanical appliances, can hardly do justice. Had they enjoyed our advantages, they would have left monuments still more stupendous, compared with which, our finest modern buildings would be mean and contemptible. Our appliances and resources enable us to accomplish in a week what cost them a year, and we are able to take their designs as our models, but in spite of this, the new Cathedral of Truro will certainly not rival the vast pile of Durham, and Liverpool, should the scheme for building a Cathedral there be revived, will not with all its wealth and enterprise give us another Westminster or Amiens.

It is curious in narrowly inspecting the pillars and windows of such a church as Peterborough to notice that the work is less true than our masons would put together—in other words, so rude were the appliances at command that the departure from straight lines is marked and frequent, and one side of a window or pillar rarely matches or corresponds to the other, nevertheless in spite of the greater mechanical precision of modern work, how vastly superior in design and general beauty of effect is the ruder and rougher execution of our ancestors.

In spite of obvious differences, the camp and the cloister had something in common—the severe discipline of the monastery, the unhesitating submission to authority, the long night watches, and the untiring struggle against sin, were manly and heroic. For centuries, therefore, stern and ruthless soldiers found that retirement to the cloister reminded them in some degree of their former life; and when, weary of war, or broken by wounds and years, they awoke to a dim consciousness of their sins, and the need of preparation for the awful change awaiting them, they often doffed the morion and the cuirass, and donned the monk's sad coloured garments. Two graceful and brilliant articles appeared in the *Nineteenth Century Review* of 1884 on this very subject, the first from the pen of Dr. Augustus Jessopp, on "Daily Life in a Mediæval Monastery;" the other from that of the Rev. Father Cody, O.S.B., on "Daily Life in a Modern Monastery;" both bear out my view of monastic life in its most favourable aspects. It is true there may be another side to the picture, on which I need not here dwell, and pride, arrogance, and turbulence might not have been unknown in the cloister. In the devotion and self-sacrificing energy of those poor monks, there was, nevertheless, much to admire: and what other proof is needed of this than the vast ecclesiastical piles which they raised to the glory of God. It requires a strong imagination to grasp that those stupendous cathedrals and abbeys, those beautiful country churches which adorn hundreds of our ancient villages were designed and built by men, who were without roads and canals, railways and steam, and who had to do everything and carry everything with appliances and amid conditions hardly less rude than those of a newly cleared American settlement, far from stations and high roads. Americans may well look with wonder on the most glorious temples ever raised in honour of the Most High! Should a hundred cities of palaces fringe the banks of the Ohio, the Hudson, and the James; should Florida and Louisiana teem with thriving millions, and be freed by science from the plague of malaria and yellow fever, one thing will always be wanting to them—no Norman Abbeys, no Gothic Cathedrals, no Mediæval Castles will tower above the encircling houses. American enterprise and English wealth would have no difficulty in faithfully reproducing Salisbury Cathedral, Romsey Abbey, and St. Mary Redcliffe, but never will a real addition be made to the great churches of the first order. This is a melancholy reflection. When I think of the delightful climate of America, of the transparent atmosphere, and life-giving sunshine of New York, Philadelphia, and Richmond, and compare the broad avenues and vast open spaces of those cities with our narrow, dingy, old world streets and fog infested squares, the thought forces itself upon me that, though those greater and more prosperous cities can never boast of the historical associations of Europe, it would be something could exact reproductions of buildings, among the chief glories of the less favoured Old World, be reared in their midst. It would be an invaluable education were American energy and wealth to endow three or four of the bright sunny cities of the Atlantic seaboard with faithful copies of Amiens, Wells, or Lincoln. There would be nothing difficult in this, and money could hardly be more wisely laid out. Most Americans could get to Richmond, Philadelphia, or Washington, but comparatively few have leisure, means, and opportunity to cross the Atlantic and see the gems of the Middle Age in their damp and cloudy settings. To a cultured American it must be a singular awakening to visit an English or French cathedral, to enter its doors, and sit bathed in the sunlight streaming through its windows. He may at home have seen opulence, and energy, and the promise of achievements greater than Europe can show, but America has nothing like the Angel Choir of Lincoln, the Palace of Versailles, the ruins of Tintern, and the towering elevation of Amiens; nothing even remotely resembling the Tower of London, the wooded amphitheatre of Kenilworth, and the majestic masses of Chepstow and Ragland.

Wells and Glastonbury stand in a rich, alluvial country, enclosed by beautiful hills of moderate elevation, but of indescribable loveliness. Far as the eye can reach extend fertile fields of so green a hue, that they rival the far-famed meadows of the Valley of the Wye and of Devonshire. Wells takes its name from three springs in the palace garden, and was once known as Welne, Wielia, Fonticula, and Ad Aquas. There is reason for agreeing with Professor Edward Freeman, that Glastonbury is perhaps the most interesting town in England. Its time-honoured memories rival, if they do not eclipse, those of every other British city. At Glastonbury the past and the present meet: the British Ynisvitrin, or Glassy Island; the Insula Avalonia of the Romans; the Glaestingaburh of the Anglo-Saxons; the Aestiva Regio of

the mediæval writer; the Mystic Isle of Avalon, and the Fair Isle of Avalon of the poet; the spot where shadowy tradition relates that the banner of the Cross was first unfurled in 61 or 63; the resting-place, according to legend, of St. Joseph of Arimathea and his son Josephus; the sepulchre of St. Patrick, the apostle of Ireland; of Gildas, the historian; of St. Dunstan, that commanding personage and pronounced individuality of the Dark Age; of the Venerable Bede; of King Coel, the grandfather of Constantine the Great; of King Arthur, and the frail, but much-suffering Guinevere; of King Eadmund the Magnificent; Eadgar the Pacific; Eadmund Ironside; and a hundred others. Well, we are not called upon to inquire too curiously into these ancient traditions, and some of the foregoing probably rest elsewhere, although many undoubtedly repose beneath the shade of what remains of the still splendid Church of Glastonbury, for there is nothing improbable in some of the legends. When a spot had acquired a national reputation for sanctity it was possible, in spite of bad roads and long distances, that the bodies of departed heroes and kings might be conveyed by loving and tender hands to the most famous shrine within reach. England is a very small country, and a week would suffice, even in the Middle Age, to convey a body from Plymouth, or Warwick, or London, to Avalon. Those were ages of faith and reverence, and the modern Nonconformist spirit, which seems almost incapable of appreciating, indeed, of perceiving beauty, was then unknown. I once met an old friend and his wife, wandering aimlessly about the streets of a large town. They were bright and shining lights among the Baptists, and had considerable wealth, and some intelligence of a practical kind. As they had nothing to do, I persuaded them to accompany me over the grand and memorable Cathedral in the next street. It chanced to be one of those days of an English summer, when the sun was shining in a sky less hazy than its wont, and the atmospheric conditions were singularly favourable. But I might have spared myself all trouble. The old deacon knew nothing of the worthies buried within the walls of the Church; and as for aisles, transepts and choir, my powers of description did not make the smallest impression on him, and he and his wife, after yawning a few times, and looking painfully uninterested, ran off, leaving me astonished at their obtuseness. Again, a few years ago I was at Glastonbury, with some hundreds of worthy people, Dorset and Somerset Dissenters chiefly, who had met for a temperance conference. The Abbatial buildings had been temptingly thrown open to visitors, but in vain; the church, Abbot's Kitchen, and the Abbot's Barn, had no attraction for them, and only half a dozen wandered listlessly about the ruins, every stone of which would have repaid reverent study. To appreciate the glories of the past needs a certain constitution of mind, and some tincture of culture and scholarship. An English labourer has not imagination enough to see beauty in a Cathedral or painting; and homely Nonconformists, however conscientious and excellent, are incapable of appreciating treasures which in the eyes of the scholar and the antiquary invest life with half its joys.

Wells is in the Eastern Division of Somerset, at the foot of Mendip, a low range of pretty and fertile hills; it is twenty miles south of Bath, and twenty-one south-east of Bristol. It has been a place of some importance since the days of Ine, Kinglet of the West Saxons, who conquered it in 704. It received its first charter from King John, in the third year of his inglorious reign, and returned members to Parliament from 1297 to 1868. The population of the parish is about 7,690, though the city has 3,000 less. In the business part of the town there is little to interest the stranger, the ecclesiastical buildings excepted. The streets are clean, fairly broad, and well laid out. There are few signs of modern improvements, and scarcely any new houses or shops, except half a dozen small villas near the stations; of the last, such as they are, there are three, though Wells, in spite of this, is practically cut off from the world, and is without express and main line trains—standing, as it does, in a complicated network of cross-country slow lines. There is an air of prosperity in the better-class streets, and not more poverty than usual in an old country town. Near the Cathedral some massive and imposing mediæval houses are noticed, some among them of singular beauty and great size. Most belong to the Chapter, and are inhabited by members of the Cathedral body.

Wells has an atmosphere of its own that at once strikes the visitor. In his well-known and scholarly work, on the Cathedral Church of Wells, Professor Edward Freeman does ample justice to the unique character of the place, besides tracing the steps by which modern cathedral establishments assumed their present peculiar constitution. Mr. Freeman's studies and his long residence at Wells make him, perhaps, our greatest living authority. The Cathedral dominates the town and dwarfs the handsome houses near; but though it possesses that feature in common with many cities of more pretension, Wells Cathedral is *the* city. It is at once evident that the lay population has been superadded to the clerical, and that originally the church with its cloisters, palace, deanery—the last probably the noblest in England—and close must have been practically the entire city. Taking it as a whole, there does not exist anywhere else in England so peculiarly ecclesiastical a city. Walls it never had, nor did it need protection, and, unlike nearly every other cathedral town, it never had a castle, and never acknowledged a feudal lord the rival of its spiritual chief. A thousand years have passed since a community of secular canons, under the patronage of St. Andrew, first established themselves on the spot. The see of Wells is said to have been founded in 909 by King Alfred's son and successor, Edward the Elder, and its first bishop was Æthelhelm, previously Bishop of Glastonbury, and subsequently Archbishop of Canterbury.

From whatever point the cathedral, and for that matter the city, is approached, the principal object is the vast church towering above everything else; not so much from superiority of site, for the north side of the Cathedral is several feet below the street-level, but from sheer massive bulk and lofty elevation. The best way of approaching it is across the Green, a large and admirably-kept lawn traversed by broad gravel walks and shaded by fine old trees, the latter effectually darkening the rooms of the houses close to which they rear their lofty heads. Then the visitor stands before the magnificent west front, reputed the finest in England, though Peterborough is very grand, and one of the most imposing in Europe, and Ely too is magnificent. The west front of Wells consists of three portions—a north and a south-west flanking tower, and a main central division. The west front is so good, and the design so admirable, that it needs an effort to believe that it was built in portions and at different times. The south-west tower dates from 1366, and the north-west from 1407-1424. Both are in the Perpendicular style; but the remainder of the west front is Early English, and is con-

sidered to be the work of Bishop Jocelyn Trotman. It was completed in 1242, two years after the birth of Cimabue, the Florentine, of glorious memory. To describe the West Front is impossible. Not the most flowing pen would convey to anyone who had not seen it, still less to one whose eyes had never rested on a cathedral of the first order—though Wells is only in the third class—what architecture can accomplish with material apparently so little plastic as stone. In the niches are placed 300 colossal statues, which the restorations gave favourable opportunities for closely examining. They are arranged in nine tiers, and were originally carefully grouped, making it probable that they represent or allegorise many incidents of scripture and of natural history. They have also been thought to illustrate the *Te Deum*. The conjectures and guesses of writers have been wild in the extreme, and can only be excused by the wide latitude which the figures themselves allow. Quaint old Thomas Fuller, speaking of this marvellous assemblage of monarchs, angels, priests, and nobles, styles it 'A masterpiece of art, England affording not the like,' and modern authorities claim still higher honour for it. The breadth of the front is 150 feet, slightly exceeding the width of Notre Dame, at Paris, and of Amiens Cathedral-contemporary buildings, though the elevation of the interior of the latter makes it incomparably more imposing. Wells, like most English cathedrals, is comparatively low and narrow. Here I had better give the dimensions of the church. Its extreme length is 415 feet, and the extreme length of the transepts 150; the nave is 192, and the choir 117 feet long, while from the ground to the finials of the centre tower the distance is 182, and to the summit of the western tower 130 feet; the interior height of the nave is 67 feet, and of the choir 73 feet, while the diameter of the chapter house is 50 feet, and the height 41 feet. The magnificent cloisters are about 160 feet from east to west, and 200 from north to south. The cathedral is built in that cruciform fashion almost invariable in English churches of great size, and of course closely resembles a cross. French cathedrals, nearly always like ours, cruciform, have commonly vast chapels surrounding the nave and choir. Their area is larger, and their elevation usually far greater than that of English cathedrals, which are long, narrow, and low, and from terminating in a lady chapel—generally very low and narrow—are much less remarkable for vastness than a mere comparison of their length and breadth with those of French cathedrals would seem to indicate.

It might not be amiss here to digress and to lay before the reader some particulars respecting the size of famous English Churches, which, with some difficulty, I have managed to collect. York Minster is 518 feet long, and the length of its transepts is 241 feet; the west towers are 196 feet high, and the central tower or louvre, for it is open in the interior, rises 188 feet above the pavement; the nave is 250 feet long by 103 feet broad, and 92 feet high; the chapter house has a diameter of 57 feet, the choir is in nine divisions, and from the gates to the eastern end is 222 feet long and 46½ feet wide; the eastern window on which are represented 115 historical subjects, is 75 feet high by 32 feet wide. St. Paul's has a length of 500 feet; the western front, with the flanking towers, is 180 feet broad; the transepts, including the doorways of the porticoes, are 250 feet across; the entire circumference of the church is 2,292 feet, and the diameter of the dome 145 feet. Salisbury Cloisters are square, and extend 181 feet 9 inches, and the breadth of the ambulatory is 18 feet. Canterbury central tower rises 234 feet, and is 35 feet wide; the total external length of the cathedral is 545 feet by a total external breadth of 156 feet, and the crypt, a remarkable part of the building, is 230 feet long, with an extreme breadth of 130 feet; the cloisters are a square 134 feet in the side, and the chapter house is 92 feet by 37 feet. Lincoln cloisters are 118 feet by 90; the chapter house, in shape a regular decagon, is 60 feet across and rises 42. The Central or Broad Tower is the loftiest mediæval square tower existing in England, and is beyond all admiration. To the top of the embrasure it rises 238 feet, the height to the gutter is 244 feet, and to the top of the vanes 271 feet 2 inches. It once served as the base for a tall spire of timber covered with lead, more than 250 feet higher, making a total elevation of 525 feet, or 121 feet higher than Salisbury Spire, and nearly twice as lofty as Grantham. This marvel of mediæval energy was destroyed by a tempest, January 31st, 1548. The breadth of Lincoln nave is 80 feet, and the length of the west transept 222. Chichester Bell Tower, the only one in England, rises 120 feet, and is extremely plain, though very massive; the nave is 156 feet long by only 26 feet wide, but the original aisles were 12 feet apiece, and the additional ones add another 14 feet, giving a total internal breadth of 91 feet 2 inches; the transepts are 130 feet long by 34, and the Choir is 105 feet by 36, having an extreme breadth of 60; from Choir to Lady Chapel the distance is 26 feet 2 inches, and the Lady Chapel is 62 feet 9 inches by 20 feet 7 inches; the Spire rises 271 feet; the vaulting of the nave 61½ feet, and the Choir 59 feet 2 inches; under the Tower the ceiling rises 67 feet, and the height of the Lady Chapel is 22 feet. The Nave of Rochester is 150 feet long from the western porch to the steps of the Choir; the breadth between the pillars 33 feet, and between the walls 75 feet; the choir is 156 feet long; the west transept is 122, and the east transept 90 feet long; the extreme length is 306 feet; the height of tower is 156 feet, and the breadth of west front 94. The length of Winchester is 545 feet; length of transepts, 208 feet; from choir screen to altar, 135 feet; length of Lady Chapel, 54 feet; length of nave, 250 feet; length of Presbytery, 70 feet; the breadth of nave is 86 feet, height 78; and breadth of west front is 118. Hereford nave is 144 feet long; Gloucester, 174; Durham, 260; and Ely, perhaps the largest in Great Britain, is given as 327 feet. Christchurch Cathedral, Oxford, is 152 feet long; transept, 101 feet; height of nave, 41; and of choir, 37. The internal length of Exeter is 380 feet, and the breadth, 72 feet; length of nave to choir, 168 feet; then to new Altar Screen, 127 feet; the transept is 138 feet long; height of vaulting, 66 feet; dimensions of Chapter House, 50 feet by 32. Norwich, from West door to Choir screen, 212 feet; length of transept, 177 feet; breadth of nave, 72 feet 7 inches; from Choir door to point of Apse, 170 feet; breadth of Choir, 45 feet; height of vaulting, 73; Spire and Tower rise 313 feet; Cloisters, a square of 150 feet in the side. Peterborough, West front, is 156 feet wide; length of Nave from West wall to Choir, 266 feet 3 inches; total width of Nave, 79 feet 4 inches; length of transept, 184 feet 9 inches; length of Choir, from entrance to Apse, 128 feet; thence to East wall, 35 feet; breadth of Lady Chapel, 83 feet 5 inches; total external length of church, 479 feet; general height from pavement to ceiling, 81 feet: height of Lantern, 135 feet. Ely, interior dimensions, 517 feet; breadth of Nave and Aisles, 78 feet; length of transept, 179 feet 6 inches; vaulting of Choir, 70 feet high;

dimensions of Lady Chapel, 100 feet by 46 feet, and height 60.

To return to Wells: on passing through one of the small, mean doors in the West Front, the general effect is imposing; fortunately it is not disfigured by rows of pews, so that its severe simplicity is in no degree marred. Few cathedrals have been so admirably restored and with such scrupulous fidelity to the original design and appearance. Wells Cathedral is little changed: it boasts of no gorgeous illuminated work, no rich decoration like the ceiling of Worcester, but opens on the view in its pristine plainness. Just under the central tower there are some singular sub or inverted arches, the simplicity and massiveness of which are among the most striking features of the Church. They date from 1338, and were built to resist the enormous weight of the central tower, which was tearing the body of the edifice asunder, and they have admirably served their purpose through all these centuries. The transepts, though small, are in harmony with the rest of the structure, and from them the beautiful choir is best entered. At Wells there is not unfortunately, as at Lichfield and Worcester, an uninterrupted view from end to end, and the screen, as that distinguished writer, Edward Freeman, has suggested, ought to be removed, to open up a full view of the interior. Many cathedrals are disfigured by screens and partitions, intercepting a full *coup d'œil.* The first three bays of the choir eastward are, like the nave, Transitional, while the second three, between the throne and the retro choir, lighter and more graceful, are Curvilinear. The Bishop's throne, a piece of Fifteenth Century work, is striking. Before leaving the Cathedral, it is well to observe that the view eastward, as one stands in the choir, near the Organ Screen, is beautiful, especially on a bright sunny morning. Many cathedrals, from their vast size and the comparative smallness of their windows, require brilliant sunlight to be seen to perfect advantage, and I need hardly remind the reader—that even the South of England does not enjoy the climate of Colorado, so that, generally speaking, casual tourists do not often see our great churches to the best advantage, but come away impressed more by their coldness and gloom, than their brightness and warm glow; but when seen to perfection the effect is never forgotton. Looking East the choir is seen to retain the severe simplicity of the Middle Age, and the attention is arrested by the slender, tapering columns and delicately painted windows of the Lady Chapel, distinctly seen over the low altar screen. Perhaps on leaving the choir, and closely examining the remaining portions of the edifice a little disappointment is experienced, as everything is so plain and lacks colour, but the antiquary does not desire alteration or embellishment, least of all the officious interference of house decorators, who have been permitted to try their 'prentice hands on the interior of some of our noblest churches. The view from the summit of the Central Tower is extensive, indeed magnificent, and in the clear atmosphere of America or Switzerland would make a deep impression. As it is, the visitor must expect some slight haze if not actual fog. In August, 1879, when I was living at Wells, the wide valley for weeks resembled, in places, an inland sea, from the terrible floods of that dismal summer. On a favourable day the central plain of verdant and fertile Somerset is seen at one's feet, and in summer the deep green woods and meadows almost reconcile one to the damp, without which they could not retain their verdure through the summer, or what we in England call summer, that is the season of occasional bright sunny days, with long intervening spells of cloud and rain.

Another strange heirloom must be examined—the famous clock placed in the western side of the northern transept. This curious clock was the work of Peter Lightfoot, a monk of Glastonbury, in 1322, and did good service in that Abbey before its removal to Wells three centuries ago. It keeps admirable time, though the restorations of modern watchmakers have had more to do with preserving it in good repair than antiquarians like to admit: the ancient clock in the West Tower of Wimborne Minster has many resemblances to that of Wells, and is from the same master hand.

Perhaps the superb view of the old capitular buildings from the Shepton Mallet Road, and from the meadows near the Bath Road is not to be surpassed by anything in the South of England. Looked at from that point, the Cathedral seems to stand on slightly raised ground, and its noble proportions are more clearly perceived. It is of little use visiting such places as Wells and Oxford once or twice. With all works of high art, time is needed to develop the full effect, if I may so speak, and not till the eye has again and again feasted upon them, are all their beauties perceived. Wells Cathedral from the spot just mentioned, must be seen a dozen times to make the lasting impression on the mind which it ultimately leaves. Besides the Cathedral, Wells has two fine churches—St. Cuthbert's and St. Thomas's. The former, said to date from the latter part of the Twelfth Century, is of great size, with transepts, choir and nave, and a noble tower, one of the finest in Somerset, and only eclipsed by Wrington. Somerset is famous for its beautiful and lofty church towers, built under the influence of Glastonbury. St. Thomas's, the other church, is modern, and was only completed thirty years ago, but though small, it is elegant and pretty, and is noteworthy for its tapering and graceful spire, and fine chancel; the latter, terminating in perfect apse, has extremely beautiful stained glass windows. This church was built and endowed by Mrs. Jenkins, widow of the munificent and learned Dean, to whose correct taste the restoration of the Cathedral is largely due. Dean Jenkins did not live to see the completion of his task: he died March 7th, 1854, and on the fourteenth, the choir of the Cathedral was re-opened, and his funeral obsequies, by one of those coincidences stranger than fiction, were at the same time celebrated.

Another striking object is the palace—most perfect of episcopal residences, and only rivalled by the ruined pile of St. David's—a noble battlemented mansion of irregular architecture, commenced over 800 years ago. A deep moat, and lofty, well preserved walls still surround it; it contains a magnificent dining-hall, and a long and stately drawing-room, The last place I can mention is the Vicar's Close, two parallel rows of ancient and picturesque houses, designed and built four centuries ago by Bishop Beckington's executors; they have been a good deal mutilated as to effect, though improved as places of residences, by recent alterations. I think that it must be confessed that I have made out a good case for regarding Wells in a different light, and including it among the health resorts of our land. Lodgings are neither dear nor scarce, and the Vicar's Close can usually accommodate several sets of visitors; while in many other parts of the little city rooms could be found, and the hotels too are very respectable. There are many other objects of interest to the antiquary and the botanist. Maesbury

Camp, for instance, is only a short walk, and is very perfect, and in August it is a good hunting ground for mushrooms. Wookey Hole is remarkable for its pre-historic remains; the Ebbor Rocks and Cheddar are great natural marvels, and in the clefts of the rocks ferns of many species are plentiful, and flowers flourish exceedingly. But, after all, the interest in the neighbourhood centres on its being the place where Christianity was first planted in England, the first church having been built in 61 A.D., and from that time to this Wells and Glastonbury have been famous for their noble churches and tender memories, and the earnest wish of every good man must be that their glory will never depart, but that they will long remain intact, connecting us with the distant past, and with a life that has for ever passed away.

THERAPEUTICAL NOTES.

FROM OUR BERLIN CORRESPONDENT.

The scope and aim of the notes—Sulphonal—Strychnine in delirium tremens—A new treatment of erysipelas—Glycerine suppositories—Lanolin combinations in skin disease—α-Naphthoic-acid collodium and wool—Permanganate of potassium in the diseases of women.

WITH my contribution of to-day I shall begin, under the foregoing heading, to supply the readers of this journal with particulars of anything new or striking which appears on the therapeutical horizon. It is clearly impossible for busy medical men to refer to all the original papers which appear in scientific publications, specially if they are in foreign and more or less unfamiliar languages, in order to take note of every improvement effected in medical treatment or in pharmacology. Such innovations in therapeutics are very commonly originated in Germany, where the conditions are most favourable to the carrying on of the necessary researches—in the numerous clinics—and of making known the results—in the equally numerous medical journals. I need only remind English readers of the introduction of such remedies as the new antipyretics—antipyrine, phenacetin, etc.—of salol, and of the new hypnotic sulphonal, as instances of recent additions to *materia medica* which have already acquired some reputation, and which made their *debût* in the field of medicine in this country. It will therefore be my duty to report to you on such new remedies and their application as are recommended by continental physicians, and also to call attention to later and further developments in the therapy or application of such remedial agents as have already taken a permanent place in our *armamentum medicamentorum*.

When sulphonal first came out it was offered principally at a price which was too high to enable it to be widely or largely used as a hypnotic. Consequent, however, upon the competition of the manufacturers, the product became considerably cheaper, and now one of the makers is said to have discovered a new method of preparing sulphonal which is much less complicated than that hitherto adopted, and which may therefore enable the compound to be sold at still lower rates. As in this country at least the remedy is increasing in favour, such a result as that intimated is much to be desired. Drs. Kronfeld and Löwenthal, of Vienna, publish the results obtained by them from the administration of usual doses (15 to 30 grains) 220 times to 40 different persons. The hypnotic was given every evening at seven, and produced sleep in from a half to two hours afterwards; very seldom a longer time elapsed before the manifestation of its effects. The result was happy in all the cases, and in 79 per cent. of the whole they succeeded in producing the desired hypnotic condition.

Some attention has been given in Germany to the recommendation of the value of strychnine in delirium tremens, which, it seems, would be worthy of further trial. In a particular case described by Dr. Ramos neither two-thirds of a grain of morphine given in a single night, nor half an ounce of tinct. opii, produced the slightest effect, which may also be said of the use of hypnone, urethane, and paraldehyde; sleep however, and ultimately a cure, was effected by the injection of one-twelfth grain of strychnine in a one-per-cent. solution at 9 a.m. During the few following days altogether two-thirds of a grain of strychnine were given, and the patient completely recovered. Although before the injection two-thirds of a grain of morphine had no soporific effect at all, afterwards one-sixth of a grain produced a sound sleep.

It is not always necessary to cast about for a new and fashionable remedy in order to treat disease. A comparatively simple and very ordinary agent will sometimes produce the happiest results. This is the moral of a communication from Behrend (*Berliner Klinische Wochenschr.*) on the treatment of erysipelas by spirit. The author had had under his care a good many patients suffering particularly from facial erysipelas, some of which were very bad cases. Ninety per cent. alcohol was applied regularly as a lotion three times daily, surfaces of about an inch in diameter being also rubbed with the liquid. Although most of the patients pursued their ordinary avocations while under treatment, the disease was arrested in every case, and the success was sufficiently marked as to justify further trial.

Of galenical preparations few have been more generally used and appreciated here than glycerine suppositories, which are favoured alike by medical men and by their patients. The difficulty of getting certain patients to take purgatives is well known and recognised; they refuse pills because they cannot swallow them, and decline draughts and liquids generally as nasty-tasting. Warm water or soap-water injections *per ano* are sometimes advisable, but the public generally lack the requisite knowledge or handiness to administer them; a second person is frequently required to carry out the physician's directions, and this introduces an objectionable feature for sensitive persons. Glycerine injections however are known to be very efficient, even in so small a dose as thirty to forty minims, and the idea of administering this quantity in a suppository has naturally met with favour. Their use is free from the objections referred to in the foregoing lines, and they have often aided the medical man over a trifling, but none the less real difficulty.

Dr. Stern, a specialist in skin diseases, publishes in the *Therap. Monatsh.* some notes on new combinations of lanolin. "Sapolanolin" is a mixture of 2½ parts of anhydrous lanolin to 2 parts of pure soft soap. With this base all medicaments may be mixed with the exception of salicylic acid. The author used it for applying boric acid, tar, white precipitate, resorcin, etc. These ointments were found to be specially advantageous in inveterate infiltrated

eczema, in mycosis and seborrhœa. Against psoriasis capitis he used an ointment made as described hereafter :—

℞ Hydrarg. precip. alb. ..... ʒ j.
Saponis mollis ..... ʒ iv.
Lanolini anhyd. ..... ℥ jss.
M.

Anhydrous lanolin is of course simply the ordinary lanolin of commerce, deprived of its 25 per cent. of water. Sapolanolin with white precipitate is, according to the author, just as effective on the head as chrysarobin is on the body. As a paste which adheres to the skin, without necessitating the use of a bandage, he used a mixture of—

Oleum olivæ..... ʒ ij.
Cera flava
Lanolinum anhyd. ana ..... ℥ ss.

The ointment is a pale yellow colour, and of thick consistence. It can be mixed with all other ointments when, for the treatment of eczema, the use of such a paste is indicated. Another suggestion of the author is the use of lanolin injections for the urethra, such as the following :

℞ Zinci Sulphatis ..... gr. x.
Aquæ ..... ʒ ij.
Dissolve and add to—
Lanolini anhyd. ..... ʒ v.
Olei amygdal. ..... ℥ iij.
M.

Or as under :—

℞ Acidi salicylatis..... gr. v.
Dissolved in—
Olei amygdal..... ℥ iij.
Lanolini anhyd. ..... ℥ j.
M.

Injections are made with an ordinary syringe, and it is found that the medicaments are very readily absorbed by the mucous membrane.

It is now six months since alpha-oxynaphthoic acid was brought out as an antiseptic. Helbig *(Therap. Monatsh.)* records what has been effected by it so far. He recommends a collodium made from it (0.5 per cent.) as a substitute for iodoform collodium, as it is a very strong antiseptic. It has the advantage over the iodoform preparation of not irritating the skin of sensitive subjects, and of being more stable. There can be no doubt that iodoform collodion is by no means a satisfactory preparation. Efforts are being continually made to improve it, so that this substitute should find a wide field for trial. The same author recommends an antiseptic wool in the treatment of ulcers and wounds. He prepares it as described under :—

℞ Acidi α-oxynaphth. ... ʒ i.
Spiritus vini rect..... ℥ viij.
Glycerini ..... ℥ iss.
Fuchsini ..... gr. $\frac{1}{12}$
M.

The resultant liquid is sufficient for seven ounces of wool, and gives a product which, when dry, contains about 1.4 per cent. of acid. The paper shows, on the whole, that there is plenty of room for good new antiseptics, although we have so many already.

Dr. Lwow has been trying permanganate of potassium in 187 cases of various uterine and vaginal affections. He obtained beneficial results by the daily administration of from four to six grains, in thirty-two cases of generally healthy but somewhat chlorotic girls, who suffered from decrease in the quantity, or from painfulness of menstruation. Women with an unnaturally strong involution of the uterus after delivery, or with atrophy of that organ or of the uterus, were benefited by the remedy, even when two years had elapsed since the last pregnancy. The same dose of permanganate given for three to six months was very successful in restoring menstrual regularity, even when the disturbance was of considerable standing. In sixty-two cases of involution of the puerperal uterus the remedy was also used with benefit, although in some instances it failed. In sixty-five cases of blenorrhœa of the vagina and uterus, permanganate of potassium was no use; the same was also true of eleven cases of premature arrival of the climateric, in which the menstruation ceased between thirty-five and forty years.

Reviews.

Lectures on Ectopic Pregnancy and Pelvic Hæmatocele. By Lawson Tait, F.R.C.S. Edin. and Eng., LL.D. Birmingham : *Journal* Works. 1888.

This book is not avowedly controversial; yet it must be regarded as the outcome of controversies which have marked the past few years. Though wearing the calm exterior of clinical lectures its pages recall debates to the memory which are nowhere mentioned in the work—*e.g.*, that which a recent writer calls "the splendid pioneer work of Dr. Francis Imlach, of Liverpool, in establishing the relation of extra-peritoneal hæmatocele to ruptured tubal pregnancy," and the little episode connected with it, are constantly present to the reader's memory. Another sentence from the same recent writer reads thus : "Tait says when you don't know what is the matter with a woman, cut her open and see. Now, Mr. Tait never said anything of the sort." One hardly knows what to think of such a charge, till one finds the explanation in the present volume; for therein are a few expressions which, taken apart from their context, seem to make Mr. Tait speak of "flinging diagnosis to the winds" as a thing which "only fools wait for." This enabled opponents to accuse Mr. Tait of disregarding diagnosis and preferring to operate without it. In these lectures Mr. Tait's real position is made perfectly clear; it is that when a woman is faint, blanched, bloodless, pulseless, collapsed and cold, and *there is uncertainty about the diagnosis*, he at once makes an exploratory incision, thinking it more for the patient's advantage to clear up the diagnosis by surgical interference than by a *post-mortem* investigation. The sense in which the author would use the knife for diagnosis is further shown by the hard hit at the bottom of page 23, which was not dealt without provocation. In publishing these lectures the author has cleared up many obscurities. Could he have published them a few years earlier, some baseless imputations would not have been made, and even the miserable "Battle of Liverpool" might never have been fought.

Before sampling the valuable matter of the work, we may as well dispose of its one blemish in the shape of a plentiful sprinkling of misprints—such as "concensus," "saggital," "ascending colour" (colon ?)—which look all the worse from being set forth on good paper in excellent type. At page 92, "Plate II" is misprinted "Part II;" and the frozen slab referred to as "2 R" is not figured in Plate II, or anywhere else in the present copy.

We may now turn to the matter of the lectures. After remarking that the literature of his subject, and its con-

fusion, are almost equally copious, Mr. Tait proceeds to describe his ætiological theory. It is briefly this:—Desquamative endosalpingitis causes shedding of the ciliated epithelium of the tube, so that the ova are no longer passed out, and the spermatozoa are permitted to pass in; and the obvious consequence of the two elements meeting in the tube is a tubal pregnancy, the sequel of which is a pelvic hæmatocele in one or the other of its two widely different varieties. Passing next to the pathology, the "Scheme of Ectopic Gestations," on page 8, is designed to show at a glance the various pathological forms which these accidents may assume. The Ovarian, or first class, comprises gestations in the actual ovary, in which Mr. Tait does not at present believe. The second class, or Tubal, comprises gestations in any part of the tube except its uterine extremity; in which last position—viz., where the uterine wall clasps the end of the tube, the gestations are formed into a third class under the name of Tubo-uterine, or interstitial. The second, or tubal, is the class of greatest present interest, because in it the confusion occurred of speaking of "ruptured tubal pregnancy" without specifying in which of the two possible directions the tube burst, or which of the two varieties of hæmatocele resulted, varieties which are nearly as different clinically as a carcinoma from a black eye. If the tube be compared to an extended human arm, an ample sleeve may represent the dependent folds of the broad ligament. Now if the rupture occur at the lower part of the tube, it is clear that the fœtal sac will drop into the said sleeve, and (hæmorrhage being limited by the ligament) it may there develop and be removed at term by operation; or it may be absorbed, or it may remain quiescent, either as a lithopædion, or as a mass of adipocere, or as a sac of bones, for any period between three months and fifty-six years! But if, on the other hand, the rupture occur at the top of the tube, the contents are thrown into the peritoneal cavity, where they prove rapidly fatal unless dealt with by abdominal section. How Mr. Lawson Tait, emboldened by Mr. Hallwright, and encouraged by Dr. Dolan, "ran his surgical writ" into an intraperitoneal hæmatocele for the first time is quite an exciting narrative. And as an example of rational pathology passing on to successful treatment, it is one of the most instructive and interesting portions of the lectures. It took three cases to teach the chief lessons; and of these three, two were distressing failures. Mr. Tait places his failures on record with Hippocratic frankness. "*More scilicet magnorum virorum*" is the comment of Celsus on Hippocrates; but one cannot pay that kind of compliment to a man till after he is dead. Mr. Lawson Tait is happily still living. The first case was Mr. Hallwright's, whom Mr. Tait met in consultation; they agreed in the diagnosis of an intraperitoneal ruptured tubal pregnancy; and Mr. Hallwright staggered Mr. Tait by twice requesting him to open the abdomen and remove the ruptured organ; and twice did Mr. Tait decline to do so. "A *post-mortem* examination revealed . . . that if I had tied the broad ligament, and removed the ruptured tube, I should have completely arrested the hæmorrhage; and now I believe that had I done this the patient's life would have been saved." The second case was Dr. Dolan's. "A most striking contrast to this terrible incident will be found in the following case, when, thanks to the ability and firmness of Dr. Dolan of Halifax, I was able save a valuable life." This time Mr. Tait at once opened the abdomen, tied the broad ligament, and removed the pregnancy. The patient is now in a condition of perfect health. This was excellent; but one more lesson had to be learnt before it became quite safe to leave off speaking of "the pitiless termination of extra-uterine pregnancy" (Parry). And this lesson was taught by Mr. Spackman's case. While Mr. Tait was "wasting much time" in cautiously separating adhesions and securing bleeding points, the patient sunk from hæmorrhage. It was a bitter disappointment. He counted on a great triumph, but he scored a great failure. But reflection soon induced the conclusion that the right thing to do in such cases is to separate adhesions rapidly, regardless of bleeding, and make straight for the source of hæmorrhage, the broad ligament; when that is tied at its base, all other matters can be done at leisure. Thus the last lesson was learnt; and thenceforward Mr. Tait's success has been almost uninterrupted. The date of this case is said at page 24 to be "June" 17th, 1883. Was it not *Jan.* 17th? The date is of some historic interest.

It will have been noticed that in Mr. Tait's "Scheme" (page 8) the two ends of the tube are (not without reason) treated very unequally. For while gestation at the tubo-uterine end is elevated into a distinct class, described and figured at page 47, yet gestation at the fimbriated end is included in the tubal class, though recognised by the author at page 13 as a possible subvariety under the name "ovario-tubal." But it is worthy of consideration whether a fimbrian pregnancy, seeing that it might escape from its position without *rupture* of the tube, may not be sufficiently distinct, at least in certain cases, to deserve a class to itself. The cases meant are those in which the pavilion gets glued by adhesions to the surface of the ovary, enclosing what is sometimes called the tubo-ovarian space. For not only is this the space in which Vulliet of Geneva, believes ectopic pregnancies regularly to occur, but also it strikes one that a "pavilion pregnancy" is the very thing to give rise to that rare and singular gestation (with omental or ventral adhesion) described by Mr. Tait at his fifteenth page. By the mere breaking down of the adhesions which bind the pavilion to the ovary, and without actual rupture, and with only a little oozing not to be called hæmorrhage, a fœtal sac might escape into the peritoneal cavity where the placenta would fasten on anything it could touch, and would present the strange appearance of an abdominal gestation with no visible rupture of ligament, or uterus, or tube. The hypothesis of a rupture made and healed again, seems less simple than that of a fimbrian pregnancy breaking the adhesions, and making a quiet escape.

A notice of Mr. Tait's lectures may suitably conclude with some words of Dr. Granville Bantock, published in this journal (Dec. 1st, p. 546). After detailing a case of successful operation in ruptured tubal pregnancy, Dr. Bantock ends thus: "The case carries this lesson, that it behoves general practitioners, who are most likely to be first consulted in such cases, to make themselves acquainted with the symptoms of extra-uterine gestation, in order that, on the occurrence of serious symptoms, they may not overlook such a dangerous complication." General practitioners who wish to take Dr. Bantock's advice, will do well to read Mr. Lawson Tait's lectures.

R. A. CHUDLEIGH.

Plaited Crystal Models. By JOHN GORHAM, M.R.C.S. Eng., etc. London: E. & F. N. Spon.

THERE are few advanced text-books of chemistry without a chapter devoted to crystal forms. It is, however, very safe to assert that the student seldom troubles his head with this branch of the subject; the lettered

diagrams appear to him anything but inviting, and he accordingly shuns them. In mineralogy he is bound to attend to the matter, and here an interest is produced by having cardboard models of the crystals he may be studying, which he makes himself by doubling and bending the prepared cardboard in a definite manner, and then gumming the edges. In the book before us we have a full description of a method of making crystal models, which is a great advance on the old way. Dr. Gorham shows how crystal forms may be made by a simple process of plaiting, and the reader is told how specimens of all the different systems may be obtained. We are bound to admit from the specimen before us, which we have plaited with the three strips provided, that the model is at once elegant and serviceable, and will not, from the manner of building up, be always bursting at the edges, as in the old fashioned gummed models. We are distinctly of opinion that a series of Dr. Gorham's plaited models to illustrate the six systems of crystals ought to be in every science school in the country. Put a boy to plait one of these models, and you make him build a form he is required to remember, and when he sees the result he is delighted. A class of lads may in this way be well grounded in the different crystalline systems, and so be led on to take an intelligent interest in questions of isomorphism and dimorphism, etc. The system of plaiting crystal models also admits of developments which were not possible by the old way. Thus, one may make a plaited model of a bismuth crystal, showing the peculiar pyramidal hollows in the faces, which are also exhibited by crystals of bromide and iodide of potassium; and since it can be so evidently made to show crystal structure, we see no reason why models should not be produced showing the variation of molecular aggregation along the crystal axes to account for various physical phenomena. The book is nicely got up, and contains some fifty-six plates illustrative of the projection of fillets for plaiting, so that the reader may be enabled to prepare any of the crystal forms described in the book. We congratulate Dr. Gorham on having produced a good, useful, and original work.

W. Ackroyd.

Leçons de Gynèiologie Operatoire. Par Vulliet et Lutaud. Paris: J. B. Baillière et Fils.

Until recent years the majority of the diseases peculiar to women were considered rather to belong to the domain of medicine than to that of surgery, but day by day it is found that gynæcological diseases are becoming more amenable to surgical treatment. In the majority of text-books the various diseases are described, and the methods of treatment are indicated, but too little instruction is afforded as to the *modus operandi* of various surgical procedures. Drs. Vulliet and Lutaud, in their joint treatise, deal with gynæcology from an exclusively operative point of view, and we know of no other work which gives so clear and vivid a description of the various details which are necessary to be observed, in order that gynæcological operations may be attended with good results. The book is illustrated with 180 original drawings by M. Bourcart, and although some of the drawings may appear to be wanting in finish, yet the object of the illustration is invariably realised, and the idea which the authors wish to convey is never in doubt. All historical researches are excluded from the general plan of the work, and the reader is presumed to be familiar with the use of the speculum, bi-manual examination, and the elementary rules for conducting a gynæcological examination. All the operations which require laparotomy are omitted, and the work is essentially a manual of operative procedure *per vaginam*. The first lecture chiefly deals with antisepticism, as employed for uterine and vaginal disinfection, and the second describes in detail the most favourable positions for examination and for operation. The remaining twenty-one lectures are almost exclusively devoted to operative work. The conditions which permit or contra-indicate the drawing down or artificial prolapsus of the uterus, to facilitate plastic and other operations, are dealt with in a concise and satisfactory manner. The chapters devoted to curetting the uterus, to Emmet's operation, and to genito-urinary fistulas, are all eminently instructive, and form a safe guide for workers in this field. The treatment of uterine fibromas is, according to the plan of the work, restricted to such methods as are applicable *per vaginam*. In the employment of electricity, the authors are scarcely disciples of Apostoli; they consider that favourable results as often follow faradisation as galvanisation, and their plan is to place one of the electrodes on the neck of womb, and the other on the abdomen; the introduction of one of the poles within the cavity of the uterus is held to be useless, and they never attempt to produce caustic effects by puncturing the uterus with an incandescent electrode; if it is necessary to destroy or disorganise the substance, it is better done by means of a bistoury after dilatation. The chapter on massage (introduced for pelvic affections by Thüre Brand) brings forward a method of treatment which is capable of doing good in a certain class of cases where no inflammatory mischief exists; the practice was at one time considered indecent and brutal, and we certainly think that it possesses some objectionable features. It may be useful in promoting the absorption of old adhesions, and the authority of Schultze, of Iena, is justly entitled to great weight; nevertheless, we think great evils might result from the indiscriminate practice of massage by the male on the female sex, and when it is thought likely to prove beneficial, we should be inclined to call in to our assistance a skilled female *masseuse*.

The lectures on the surgical treatment of cancer are excellent, and will well repay attentive study. The lectures on the operative treatment of uterine displacements, including the use of pessaries, leave little to be desired. Sims', Schrœder's, Alquié Alexander's, and other operations are described, as well as what the authors term laparo-hysterorraphy, or the stitching of the uterus to the abdominal walls. The operations for the repair of ruptured perineum are well described, and a just tribute is paid to Mr. Lawson Tait, of whose skill as an operator, the authors evidently entertain the highest opinion. The four last lectures deal with sterility, and especially with the conditions capable of removal by operative measures. The question of artificial fecundation is one which would hardly be entertained by English medical men, nevertheless, it has been practised successfully in about ten per cent. of the patients who have been willing to submit to this repulsive treatment. Love of offspring and maternal instincts must be unusually strong before any woman would consent to the supervision of her conjugal relations by a medical man; and we believe that every pure-minded woman would consider sterility far preferable to the degrading measures which alone render artificial fecundation possible.

Taking the work of Drs. Vulliet and Lutaud as a whole, we cannot but think that it is the best work of its kind yet

published; there is no padding; all is clear, concise, and carefully reasoned; the student will find therein all that is needful he should know about operative gynæcology, and the expert will find a careful *resumé* of the most recent and important measures which may be prudently adopted in suitable cases. H. R. HATHERLY.

L'Enseignement et L'Organisation de L'Art Dentaire aux Etats Unis. By Dr. KUHN. Paris: Octave Doin.

THE report addressed by Dr. Kuhn to the Minister of Public Instruction gives a most exhaustive account of the training of dentists in the United States, and of the laws which bear upon the practice of dental surgery in each state. Although the bulk of this work of 300 pages is devoted to America, the systems in vogue in England, France, Germany, Austria, Spain, Belgium, etc., are all referred to sufficiently for purposes of comparison. The colleges of dental surgery of Baltimore, Ohio, Transylvania, New York, Philadelphia, Pennsylvania, Missouri, New Orleans, Harvard, Boston, Maryland, etc., are all described, and the course of instruction is fully detailed. There can be little doubt that the American system, both as regards instruction and examination, is calculated to weed out all incompetent practitioners. One point is brought out in strong relief, that is the essentially practical nature of the examinations. A candidate for the diploma of Doctor of Dental Surgery is expected to present a written *thesis* on some subject which bears upon the theory and practice of dentistry; he must treat a patient requiring some recognised dental operation, and the patient must be submitted to the professor of operative dentistry; he must also adapt artificial teeth, and present the patient to the examiner; he must also prepare a pathological specimen for the museum, and finally he must undergo an examination before the board of instruction, who, if they pronounce him capable, recommend him to the Administrative Council for a diploma. The fee for the full course of instruction varies in different colleges—at Philadelphia it is £21; at California £59. The examination fee is the same everywhere, £6.

The laws affecting the practice of dental surgery vary much in different states, but on the whole the American dentist has no cause to complain that he is not adequately protected in the exercise of his profession. In every state penalties of from ten to three hundred dollars are inflicted for illegal practice, except in that of New York, where punishment is only awarded to those who usurp the title of dental surgeon when not duly qualified. In some of the states extraction is permissible for all; in others medical men only are authorised to extract teeth, a privilege not extended to the general public. In some states dental operations by medical men are allowed; in others medical men who have no dental diploma are not allowed to perform dental operations. Every dentist, whatever the nature of his diploma, is required to take out a license to practise from the recognised authority of each particular state, and a fee, varying from five to thirty dollars, is usually charged. In a few of the states no fee is charged. In ten states the exercise of the practice of dental surgery is restricted absolutely to dentists; in three states medical men may practise; in six, medical men are only permitted to extract teeth, and in ten states extraction is not restricted to either dentists or medical men. In thirty-eight states of the Union the dental art is recognised and organised. In every state save New York irregular practice is illegal, and in every state dental surgery is considered as separate and distinct from the practice of medicine. Foreign degrees can for the most part be recognised without passing any additional examination.

Dr. Kuhn argues very clearly that the dental art is, and should be kept, separate and distinct from other branches of surgery. It is not possible to disassociate it from medical practice entirely, inasmuch as it is the application of several different sciences, of which, perhaps, it borrows most extensively for its methods from medicine, which may be considered the fundamental basis of the dental art. To those who are interested in the practice of dentistry, and who desire an insight into the regulations concerning it which prevail in the United States, regulations which have no doubt contributed to raise the standard of American skill to its present high-level, we would strongly recommend a perusal of Dr. Kuhn's treatise. The report is a valuable one from every point of view: it is printed in large type, on thick paper, and is further embellished with a few good illustrations. H. R. HATHERLY.

The Place of Saccharin in Pharmacy. By Professor ATTFIELD, F.R.S., etc. pp. 16. 1889.—"Saccharin: A Vindication." London, 1889.

PROFESSOR ATTFIELD'S reputation being co-extensive with British pharmaceutical science, the pamphlet before us is accepted as a confirmation of the "vindication" of saccharin, by Messrs. Wilson, Salamon & Co., which appeared in our last number, and has been separately published by that firm in a more extended form. From these publications it has now become, beyond contradiction, the received opinion that saccharin is a most valuable adjuvant in the treatment of diabetes. Dr. Pavy, Dr. Stevenson, Dr. Lauder Brunton, Dr. John Dougall, Dr. Little, Dr. Bey, and other medical names are given as testifying to the value of saccharin, and its entire freedom from the injurious action by which it has been discredited. We do not, in a question of science, bow to authority, but readily accept as equivalent to fact the experience stated by observers so well known and so highly esteemed. The unanimous verdict upon the use of saccharin is that it becomes quickly absorbed, and is rapidly eliminated by the kidneys in an unchanged condition; that it cannot therefore exert any hurtful influence upon digestion. On the contrary it has been shown to have exercised a direct curative influence in cases of diabetes. The further therapeutic efforts of this substance remain to be developed. Dr. Attfield gives formulæ for the exhibition of saccharin:—"Most of the large number of Galenical preparations, as commonly ordered by physicians, and now made with sugar, would be prepared with saccharin (formulæ given) and would be set forth in prescriptions under distinctive names—*e.g.*, mist. cretic *sacc.*; pulv. glycyrrh. co. *sacc.* concent.; conf. sennæ *sacc.* concent.; etc.

Concerning incompatibles. Dr. Attfield observes:—"Saccharin is a tolerably indifferent substance. It is unaffected by the fluids of the body, acid, or otherwise, for it has been proved to pass through the system unchanged. Fusion with caustic alkali gives a salicylate, hence prolonged contact with strong alkalies is probably undesirable; and, obviously, acids would precipitate saccharin itself from a strong, though not from a weak, solution of a soluble sarrachinate, weak in soluble saccharin; but saccharin is quite unaffected by the ordinary materials used in medicine." Respecting nomenclature. Dr. Attfield remarks, with

justice, that it is to be regretted that the name saccharine was given to the substance under consideration, as the word is already in common use in trade for various kinds of sugar. *Saccharum*, the Latin word, being generally employed in various forms, an entirely new word would have been preferable. Dr. Attfield suggests *glukusin* (γλυκυς, sweet), not glucosin or glucosine. A still better name, suggested by Dr. Attfield, would be *neosaccharin*, "which would have prevented the contraction in prescriptions being identical with that for sugar." In the Galenical prescription given by Dr. Attfield, the names appended may prevent the mistake. Upwards of thirty formulæ are contributed by the combined experience of several pharmacists, or have been contrived by the author for the present purpose. The general principle followed in compiling these has been to replace the sweetness of sugar by the sweetness of saccharin, without altering the strength of the preparation. For the details of these formulæ, the pamphlet of Dr. Attfield must be consulted. The commercial price of saccharin is high, but comparing its sweetening power with that of sugar it cannot be regarded as otherwise than low. W. B. Kesteven, M.D.

Section Cutting and Staining. By Walter S. Coleman, M.B. Lond., formerly Assistant to the Professor of Pathology in the University of Edinburgh. London: H. K. Lewis, Gower-street. 1888.

Of the many practical guides that have appeared in recent years this little book will be found to be one of the most useful. It is just what the student, or the practitioner who dreads tackling a large work on the subject, requires. We are told what kind of apparatus to get, and how to get it good and cheap, which the author rightly deems to be often of great moment. Moreover, we are told how to keep our specimens, how to make some of our apparatus, and some of our solutions. Various modifications of Cathcart's microtome are recommended—*e.g.*, one to use with Swift's plough and Frazer's for celloidin embedded objects. William's ice freezing, and Schanze's instrument, are both figured and described. If one took the title of the book literally, hardening, decalcifying, and section mounting would have no place, but such is not the case, all are included. The latter part of the work is devoted to directions for preparing individual tissues. A thorough mastery of the normal appearances of tissues and organs is insisted upon, and full directions are given. The various pathological degenerations and tumours are dealt with. We can recommend Dr. Coleman's little book to all who are beginning to work at the subject. C. A.

Epitome of Diseases and Injuries of the Ear, with a Chapter on Naso-Pharyngeal Diseases causing Deafness. By W. R. H. Stewart, F.R.C.S., L.R.C.P. Edin., etc., Aural Surgeon to the Great Northern Central Hospital, etc. London: H. K. Lewis, 136, Gower-street, W.C.

Although the utility of small treatises on the ear is often questioned, we welcome the little work by Mr. Stewart as a distinct addition to otology. In his preface he plainly states that the book is in no way intended to take the place of the larger works on the ear, but that it should be an aid to the student in his clinical work, and a convenient guide to the busy general practitioner; and we have but little doubt that it will fulfil the object for which it has been written. The appearance of several books lately on ear disease, may be taken as a sign of the times, and all good works, which throw any light upon the pathological conditions to be met with in the organs of hearing, and the treatment to be adopted, will add to the interest now being more universally taken in this important branch of medicine. We are also pleased to find that it is not tagged on to a treatise on diseases of the eye, for in our opinion the association of the ear with the eye, so often met with in our special hospitals, has been the main hindrance to the proper development of otology in this country. Within a space of 113 pages, Mr. Stewart gives a fairly concise account of the principal diseases of the ear, with their causes, symptoms, prognosis, and treatment. The chapter treating on cerumen and foreign bodies in the external meatus is very well written. We are pleased to see that he deprecates strongly the use, by unpractised hands, of instrumental treatment other than syringing, in the removal of cerumen and foreign bodies in the meatus. In his remarks on the treatment of ivory exostosis, the entire omission of all mention of the use of the chisel and mallet, which, in our hands, is preferable to the American dental drill, is an error which should not find a place in a second edition. George Stone.

A Handbook of Surface Anatomy and Landmarks. By Bertram C. A. Windle, M.A., M.D. Dub., Professor of Anatomy, Queen's College, Birmingham. London: H. K. Lewis. 1888.

In this little book, which lays no claims to originality, Dr. Windle deals with the study of anatomy as a teacher familiar with the wants of the practical student, and he has succeeded in producing a work that presents the results of many laborious investigations in a systematic and attractive form. The various landmarks and surface markings of the body are fully described, and directions are given for mapping out the position of the internal organs; the digital examination of the various orifices is detailed, and hints are given for the performance of simple operations, such as passing the catheter and paracentesis thoracis. The rules given are explicit, and such as are likely to be retained in the memory, and are not clogged by unnecessary details. The section on the relations of the scalp to the brain and other structures will be found particularly valuable. The occurrence of a few inaccuracies is incidental to the first edition of a work of this kind; in the present, for instance, the rule for finding the fissure of Rolando is wrongly given in the text, though the diagram is correct, and the membranous portion of the urethra is wrongly stated to be the most frequent seat of stricture. On the whole Dr. Windle is to be congratulated on having produced a book which successfully treats of human anatomy from a highly important standpoint, and which forms a valuable addition to the literature of the dissecting room. It may be safely recommended to all students and practitioners who wish to reap the practical fruits of their anatomical studies, and it will be especially useful to students preparing for examination. T. R. Bradshaw, M.D.

A Handbook of Therapeutics. By Sydney Ringer, M.D., F.R.S. Twelfth edition. London: H. K. Lewis.

Dr. Ringer's work has met with almost unprecedented success, this being achieved by its own absolute merit. The busy practitioner has found out its merits, and there are few libraries from which it is absent. The latest edition has been thoroughly revised and brought down to date, and we anticipate that it will soon be exhausted, and a new edition required. We need not enter into an analysis of its contents,

The Provincial Medical Journal,

MARCH, 1889.

IS IT an indication of increasing respect for the profession that the doctor is becoming a more frequent character in novels, and that he is even appearing on the stage, and that, as a rule, the portraiture is drawn from the best side, the doctor's work being presented in a lovable light, as in the following description from a novel entitled "Dr. BREEN'S Practice" (by HOWELLS)? Dr. MULBRIDGE is thus described at the bedside of a female patient: "He was incredibly soft in all his movements, and perfectly kind, without being in any moment unprofitably sympathetic: he knew when to listen and when not to listen; to learn everything from the quivering bundle of nerves before him without seeming to have learnt anything alarming: he smiled when it would do her good to be laughed at, and treated her with such grave respect that she could not feel herself trifled with or remember afterwards any point of neglect." This is a very different description from the rough-handed surgeon of TENNYSON.

In a very interesting address contributed to the Polyclinic Society of Philadelphia, Dr. Ross M. BUNTING has collected together from a number of novels the descriptions given of our profession, and it would certainly appear that the modern novelist writer has very much improved in his conception of our profession, from such older writers as LE SAGE, MOLLIERE, and STERNE. "Dr. SANGRADO" is historical, and much better known to most readers than the "Dr. SLOP" of LAURENCE STERNE, though we consider that STERNE'S portraiture is a much better work of art than the "SANGRADO." The description of "Dr. SLOP" and his forceps is an inimitable piece of writing, though it is marred by the faults which disfigure STERNE'S works. Dr. BUNTING reminds us that we have in "GIDEON GRAY" (of SCOTT) a doctor in whom our profession may feel a just pride. He says that he is a true picture of the country doctors in Scotland of that time, giving as an instance the name of Dr. ADAMS, the translator of "PAULUS ÆGENITA" and "HIPPOCRATES." In "Dr. ANTONIO," "Dr. THORNE," "Dr. HERBEAU," "The Country Doctor," "The Doctor of Dene," we have also pleasant sketches of professional *confrères*. We agree with Dr. BUNTING'S statement that to GEORGE ELIOT must be awarded the credit of having given the best delineation of a doctor in romance. "LYDGATE carried to his studies in London, Edinburgh, and Paris the conviction that the medical profession as it might be was the finest in the world; representing the most perfect interchange between science and art; offering the most direct alliance between intellectual conquest and the social good."

LYDGATE, with his high ambitions, was, however, weighted down by his wife, and the accomplishment of his aim was frustrated, though he became a successful doctor in a sense. OLIVER WENDELL HOLMES has described for us a shrewd old-fashioned practitioner in his "ELSIE VENNER," a remarkable book, which has as its basis the subject of maternal influence. The old doctor makes some shrewd observations, amongst which are the following. He confesses he does not read much, but he makes this the excuse: "When a man that's once started right lives amongst sick folks for five and thirty years as I've done, if he has not got a library of five and thirty volumes bound up in his head, at the end of that time, he had better stop driving round and sell his horse and sulky." Medical men are often accused of being indifferent to religion, and of being Atheists. The old doctor in this book has a conversation with the clergyman on this point, and he tells the clergyman that "GOD opens one book to physicians that a good many of you don't know much about—the book of life. That is none of your dirty folios, with black letters, between pasteboard and leather, but it is printed in bright red type, and the binding of it is warm and tender to every touch. They reverence that book as one of the ALMIGHTY'S infallible revelations. They will insist on reading to you lessons out of it, whether you call them names or not. These will always be lessons of charity." In many novels we find good descriptions of lady doctors, as in "Doctor ZAY," by Miss PHELPS. The heroine says, in reference to the profession: "It is unmatched, I believe. Even the clergy have a poor one beside us. We stand at an eternal confessional, in which the chances of moral escape or evasion are reduced to a minimum. It is holding human hearts to count their beats. When you count the contest between life and death you have a position unique in human relations." Women doctors figure in a novel by SARAH ORNE JEWELL, and in "The Woman Hater," by CHARLES READE. The heroine in the former novel says, in favour of the study of medicine by women: "I believe that GOD has given me a fitness for it, and that I could never do anything else half so well. I do not wish to be married, nor do I think it right that I should be. If I have good reasons against it, would you have me bury the talent GOD has given me, and choke down the prayer every morning that I may do this work lovingly and well? I will not attempt to say that the study of medicine is a proper vocation for women, only that I believe more and more every year that it is the proper study for me. It certainly cannot be the proper vocation for all women to bring up children, so many of them are dead failures at it; and I don't see why all girls should be thought failures who do not marry. I don't believe that half those who do marry have any real right to it, at least until people use common sense as much in that most important decision as in lesser ones. The preservation of the race is no longer the only important question; the welfare of the individual will be considered more and more. The simple fact that there is a majority of women in any centre of civilization means that some are set apart by nature for other uses and conditions than marriage."

Dr. Rhoda Gale, in "The Woman Hater," makes a strong point in the following paragraph :

To open all hospitals and infirmaries to matriculated students, without any respect of sex, as they are already open by shameless partiality and transparent greed to unmatriculated women, provided they confine their ambition to the most repulsive and unfeminine part of medicine, the nursing of both sexes and laying out of corpses—I say that to open the study and practice of medicine to women folk under the infallible safeguard of a stiff public examination, will be to rise in respect to human rights to the level of European nations who do not brag about just freedom half as loud as we do.

Dr. Bunting has not by any means exhausted the number of novels in which medical men figure. He says that it is a matter of regret that the self-sacrificing spirit of the physician is rarely appreciated, and that though we have some descriptions, yet the examples of medical heroism as shown in the plague of Marseilles, the famine fever in Ireland, and the yellow fever in America, would furnish material enough for scores of romances. We believe that we are within measurable distance of what Dr. Bunting calls medicated novels, and the fear now is that they may be rather overdone, especially in regard to physiology and pathology.

The saccharin controversy, we believe, is now finished, and the atmosphere is cleared, the result being a distinct gain and impetus to the use of the agent. The harmlessness of saccharin, even when pushed to its highest point rests upon such a solid basis of experience, that it would be folly now to dispute it. The pamphlet issued by Professor Attfield, F.R.S., one of the editors of "British Pharmacopœia," assures for saccharin a place in pharmacy from which it will be difficult to displace it. The numerous formulæ he gives open out a new development. He shows us it can be used for gargles, mixtures, emulsions, powders, using in place of a solution of sugar an equal volume of a solution of saccharin, which he calls solutio saccharini simplex, and which has the same degree of sweetness as the syrup of the "British Pharmacopœia," and therefore can be prescribed in exactly similar quantities. Saccharin at present may seem to be dear, but when compared with sugar in proportion to bulk, it will not be found to be so. It has already considerably lowered in price, and there is every probability that it will reach a lower figure, thereby following the law which seems to regulate all new products. We thoroughly agree with Professor Attfield in his lament, that such a name should have been given to this complex body, and for a time some little confusion may arise between saccharum and saccharinum, especially when an abbreviation is used. When saccharin becomes incorporated in the "British Pharmacopœia" it can be re-christened, so as to obviate any confusion, the present synonym being retained. The evidence of the best therapeutists is to the effect—

1. That saccharin is quite innocuous when taken in quantities, largely exceeding what would be taken in any ordinary dietary.

2. That it does not interfere with, or impede the digestive properties when taken in any practicable quantity, and that it may be taken for an extended period without interfering with the digestive and bodily functions.

Hence there is no reason to limit its use, and as it may be usefully employed in medicine as a sweetener, so it may be used for culinary purposes, to give dishes a more agreeable taste. When we consider the large number who are not allowed to use sugar, we cannot but see what a boon this new product will be, and how much we can be assisted in having at our disposal a perfectly harmless substance as a substitute for sugar. We publish in another column a review on two pamphlets which have been sent to us, from which our readers can learn more as to the nature of the saccharin controversy. In the last issue of the journal appeared a long and exhaustive letter from Mr. Salamon, which very succinctly exposed the origin of the outcry which was raised against this agent.

We underated the influence the sugar question had in the exclusion from France of saccharin as a saleable commodity, on the alleged ground of noxiousness. The *Journal de Médicine de Paris*, of February 10th, is outspoken on this point. The editor says :—"It is known that the French Government, perplexed without doubt by the consequences which would ensue to the native industry by the consumption of saccharin, interdicted the entry of this substance into France. We should not think of criticising the measure were it not based on an erroneous fact—the noxiousness of saccharin. Now, M. Dujardin Beaumetz, and many therapeutists, were at first its warmest partisans before Government comprehended the necessity of intervicting its employment. The French State has, we are convinced, serious reasons to fear the substitution of saccharine for sugar, since we draw more than two hundred millions each year from the tax on sugar. But we still think she must take, against this, fiscal measures, based on budgetry considerations and *not* on scientific considerations, which are not seriously regarded in any country. The Government of Holland occupied itself with the possible dangers the habitual employment of saccharine might have upon the public health, and asked the advice of different provincial sanitary bodies, who gave contradictory opinions, though favourable to the use of this new product. The Upper Council of Health, however, after an enquiry, declared that, in view of hygienics, there was no ground to prohibit the alimentary employment of saccharine. The Governments of England, America, and Germany, which have seriously studied this question, consider it not only as an inoffensive condiment, but as useful for the preservation of foods on account of its eminently antiseptic properties." This open declaration in a well-known French journal should settle the question.

At a meeting of the Chemists' Assistants' Association, London, January 24th, Mr. A. Campbell Stark read a very suggestive paper on the subject of "Trade Protection : its present relation to Pharmacy ;" and we venture to offer a

few remarks on the paper, recognising that medicine and pharmacy are in a great measure associated, and that what interests or affects the chemist should interest us.

The pharmaceutist of the present day is suffering from the effects of over-competition in his own trade—hence the cutting down of prices—and from the still more galling competition of those outside his trade, who sell also at lower prices the patent medicines, the soaps, perfumery, and other toilet articles by which the chemist supplemented his income. It cannot be for one moment pretended that the sale of toilet requisites, or the endless odds and ends in the shape of soaps, powders, and foods, belongs to the chemist as a right, or has anything whatever to do with the proper *rôle* of the pharmaceutical chemist; so that protection for the chemist, so far as the sale of such articles is concerned, cannot be reasonably enforced. We are not aware that any sensible chemists do claim, as their prerogative, the right to such sales; but we mention this point to clear the ground. We do admit that the chemist has very materially suffered from the competition of stores and grocers in the sale of many articles, on which formerly large profits were made. Where the legislature may legitimately interfere for the protection of the pure chemist we think we can point out. The chemist owes his existence to a desire on the part of the Government to protect the people—in the first place, providing for their use qualified dispensers; and, again, restricting the sale of poisons, so that human life might not be taken away by placing in the hands of the general traders the means by which the general public could accomplish poisoning. The legislature imposes great obligations on the part of those who enter on the duties of a chemist: it has framed a curriculum, followed by an examination, penalties being enforced, so as to insure that the public may be faithfully served. The pharmaceutical chemist occupies a very different social position from other traders. His examinations and his associations stamp him as being superior to them. The legislature, however, does not treat him fairly, after requiring so much from him. It allows medicines to be sold by the qualified and unqualified; and here we agree with what is a very old professional saying—*that all medicines are poisons;* and as the Government has made a distinction by only allowing a certain number of medicines, known poisons, to be sold only by the chemist, it should go farther, and protect the chemist by forbidding all but members of the Pharmaceutical Society from selling medicines. Free trade in drugs is not conducive to the best interests of the people; and though we are a free trading people, yet we may be permitted, when occasion requires, to draw the line at a certain point, and we should certainly draw it at the sale of medicine. If the pharmacist had the absolute monopoly of the sale of medicine, and the dispensing of it, would he be content? Would it be sufficient for him to make a living by? for, after all that is the great question which is at issue. Would those chemists who now sell whisky, tea, soap, sugar, and toilet requisites, give up the sale of these articles? If they continued such sales after securing a monopoly, they would very soon stir up opposition from other traders, upon whose business they were encroaching. We believe the chemist would be very much elevated in social status and influence if the Government gave him the monopoly of the sale of medicines; but if the Government added the proviso that the chemist should not, under a penalty, sell articles such as those above named, would the monopoly be worth securing? This is a question for chemists to answer.

The dispensing of medicines by medical men is, we believe, somewhat on the decline. We cannot at present enter into the very large question as to whether medical men should give up dispensing; but at some future time we shall take up this part of the question, and examine the *pros* and *cons*.

WE have received from the editors of the *Australasian Medical Gazette* a copy of an article by Mr. G. R. MACMULLEN, M.A., LL.D., exposing the danger of sea travelling with a consumptive cabin companion. Mr. MACMULLEN writes as a layman to laymen, but he is evidently well informed on the subject on which he writes, and the danger he points out is a real one. He draws a picture, true to life, of our ocean bound steamers, where the traveller in perfect health, and in full anticipation of a pleasant voyage, after securing his birth, has his dream rudely broken, as soon as it is found out that his companion is consumptive. He will have for a certain time to be associated with him, and independent altogether of the unpleasant incidental surroundings—the coughing, the expectoration—he will have to run a real danger if our modern views of the nature of phthisis be true. The modern view is really a return to the old view. In England for years we abandoned the idea that consumption was in any way communicable, while many nations clung tenaciously to the belief that phthisis was highly communicable, and, in consequence of this belief, they took care to segregate consumptives, observing at the same time strict sanitary precautions as regards them. Thus sleeping with consumptives was forbidden, whilst their clothing and bedding were even regarded as a possible means of conveying the disease. We have for years been acting in absolute disregard of the general welfare, by the manner in which we have ordered our consumptives from one country to another, thereby giving a wider geographical distribution to the disease, and exposing the healthy to what we may call infection. The time is now come for us to review our position; even though we have to be taught a lesson by a layman, we should not be above receiving it. We believe that Mr. MACMULLEN'S arguments are unanswerable. What we have to do concerns the individual and the community. We must consider under what conditions the individual consumptive may travel, and what precautions should be taken by the consumptive traveller. Whilst then some provision must be made for the benefit of those who are consumptive, and who are ordered a sea voyage, at the same time the interests of the

healthy must be conserved. This might be brought about by the adoption of Mr. Macmullen's suggestions:—

"Now, as regards a remedy for this state of affairs, I would suggest the following, which I do not think unreasonable, though perhaps capable of amendment. In the first place, all intending passengers should, on booking, be able to produce to the shipping agents (who should under penalty insist on its production) a medical certificate stating that the intending passenger is in good health, or if not so, the nature of his or her ailment. Secondly, the medical officer in charge of the ship should have the power to remove a passenger into the ship's hospital, which, in view of such contingency, should be properly fitted for the reception of patients. Of course, when a passenger occupies a whole cabin the rules should be relaxed. This would be no hardship to the patient, but a positive benefit, and would result in general convenience and satisfaction. The certificate might be given by a physician appointed by the shipping company, or by the usual medical attendant of the intending passenger. I feel convinced that if some such regulations were in force, travelling by sea would receive an additional attraction in the shape of comparative immunity from the dangers of infectious disease, which is far from being the case at present, especially as regards the particular complaint above discussed. There may be difficulties in the way of bringing about such conditions, but some regulations of the sort should be instituted, and I shall be content if these lines fall under the eye of any whose ideas on the subject may agree with my own, and whose influence and inclination may enable them to assist in procuring a much-needed reform."

Annotations.

"Forsan et hæc olim meminisse juvabit."

THE HANDWASHING CONTROVERSY.

It has gone round the world, and endless are the suggestions made, and the prescriptions devised, in order to secure clean hands. We hardly believed it possible that so much nonsense could be written on such a subject, and it only shows us that it is not the lay press which has its big gooseberries, etc. One result will be no doubt that some will wash their hands who have never before indulged in the practice.

THE VOLUNTEER MEDICAL SERVICE.

As the result of the recent deliberations of the War Office Committee, the following recommendations have been adopted:—1. The whole of the volunteer medical officers, both regimental and those attached to the volunteer medical staff corps, are now classified according to rank and date of commission under a separate heading in the army list. 2. All acting-surgeons in possession of a certificate of proficiency can, upon recommendation by commanding officers, be commissioned to the rank of surgeon. 3. Volunteer surgeons can be promoted after fifteen years' service to the substantative rank of surgeon-major. The development of the Volunteer Medical Service has been slow, but it has been sure and progressive, and the recent changes will give great satisfaction.

FEES FOR ATTENDANCE ON INDIAN PRINCES.

The Governor of India has issued an order that when a medical officer is permitted to attend a native prince, the fee to be paid for such attendance to be settled by Government, to whom the amount of the fee proposed should be reported by the political agent for sanction before it is communicated to the medical officer concerned. This appears to us as if the Government of India were going a little too far. The King of the Belgians, we believe, presented Sir Henry Thompson with a cheque of four figures, in appreciation of the relief he afforded him. Had Sir Henry been in India, and in the Indian Service, and had he been allowed to give his services, the sum of four figures might have been reduced to one of two by the arbitrary action of some officials, who themselves do not like to pay doctors' bills. If medical officers are allowed to attend native princes, and if they give valuable services, we fail to see why their fees should be limited.

MEDICAL MEN IN THE COUNTY COUNCILS.

The following medical men, amongst others, have been elected on the County Councils:—Dr. F. E. Ryott (Berkshire), Dr. Walter Harley (Staffordshire), Dr. G. A. Jeffery (Sussex) Dr. G. H. Anderson (Lofthouse Division, Yorkshire), Dr. J. Glen (Normanby Division, Yorkshire), Dr. G. W. Richards (Worcestershire), Dr. Herbert Hayes (Newington), Dr. Allan McLean (Portland), Dr. Rowland Williams (Holyhead), Dr. Edward (Mold, Flintshire), Dr. T. H. Redwood (Rhymney), Dr. S. H. Steele (Abertillery), Dr. G. Jeafferson (Framlingham), Dr. Turle (Finchley), Dr. Hogg and Dr. Hodgson (Crewe, Cheshire), Dr. R. Thompson (Hampshire), Dr. W. L. Winterbottom (Bridgwater, Somerset), Dr. Johnson (Wiltshire). In Merionethshire the election has resulted in the election of five members of the profession.

QUACKS AND QUACKERY AT THE ANTIPODES.

The profession at the antipodes are troubled even worse than we are here by the illegal practitioners of medicine. Though there is a law regulating the practice of medicine, unfortunately, the Chief Secretary of Victoria favours the quacks, and he will not allow the police to initiate proceedings against the unqualified. The Australian *Medical Gazette* very truly says on this point: "The existence of a Government is only justified by the protection it affords the public against all preventable evils, one of the greatest of which is the lax administration of a law enacted with the object of preventing persons, not having facilities for minute enquiry, from being imposed on by the misrepresentations of scoundrels."

MEDICAL ACTIONS.

After four days' trial, brought by Mr. C. Egerton Jennings against Dr. Herbert Snow, the case ended in a verdict of £10 for the plaintiff. From every aspect of this case it is regretable that it was brought into a court. The public appear to like actions of this kind, as the court was crowded during the hearing, and no doubt they were very much edified by the divergence of opinion on some of the points in dispute. It is a pity we have not some court of honour to which matters of this kind could be referred. Another action, remarkable in its way, too, was brought by a practitioner against the Medical Council for erasure of name. This resulted in a verdict for the Medical Council. On the morning after this trial a letter appeared in the London *Daily News*, signed J. Clifford Allbutt. This letter we are assured was a forgery. Surely there must be some method of punishing forgers.

ASSOCIATION FOR THE DEAF.

The members and friends met in the Glasgow Ear Institution, Buchanan-street, on the 6th inst., when Dr. J. Erskine presided, and explained that arrangements had now been completed for giving systematic instruction to the members in lip-reading or the German method of oral communication. Hitherto deaf or deaf-and-dumb children only have been taught lip-reading and articulation. The Association for the Deaf, therefore, whose members are all adults, and retain their faculty of speech, have initiated the teaching of the oral method to a class of people for whom it is especially suited. They are in a position to acquire it readily, and derive much practical benefit, as such a method of communication will bring them into much closer and freer relation with their hearing neighbours than the use of digital signs. The duties of teaching the members of the association have been undertaken by Miss Robertson, whose work, under the Govan School Board, is being attended with much success. The class, it may be mentioned, received high commendation from the Royal Commission on the Blind, Deaf, and Dumb, on the occasion of their recent visit. The twenty-third annual gathering of the deaf and dumb took place under the presidency of Lord Roseberry.

PATENT MEDICINES.

The profession has been exercised from time to time as to whether it should use patent medicines. It does use them as a matter of fact—witness antipyrine, vinolia, etc. The profession may take its cue from the *Lancet* and *British Medical Journal* advertisement sheets. Patent medicines are evidently quite proper. Both journals claim to stand in the position of guides to the profession, and consequently their advertisement sheets stand in the same light. The profession may use any medicine advertised in the above-mentioned columns. Take away the *patent* medicines, where would the advertisement sheets be?

PROTECTION IN THE STATES.

The profession in the States are crying out for protection against the foreign diplomates, who invade her peaceful and dollar-bearing shores, greatly to the injury of the native. The American doctor has been much vilified. Now it appears from such veracious journals as the *New York Record*, that it is the foreigner who brings such discredit on America, and as that paper states "that English medical men are not gentlemen," we must bow down before this dictum. The specimens who went to Dr. Billing's Congress must not have been up to standard.

THE MEDICAL SICK AND BENEFIT SOCIETY.

The above society is steadily accumulating capital, besides liberally disbursing its funds to all sick or disabled members. We may shortly expect a quinquennial report and valuation, which will give information—unique of its kind—on the healthiness of the profession. New members are steadily entering, and the position of affairs is most gratifying. Young practitioners should write to Mr. Radley, 26, Wynne-road, Brixton.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

This society is established on a broader and more liberal basis than any other London society. It actually realised that its presidents might live in the provinces, and carried out its conviction by electing Mr. Lawson Tait, and by the recent election of Dr. Macan to the presidential chair. It is a progressive society, and we therefore direct the attention of provincial practitioners to it. Its transactions are worth the subscription.

CERTIFYING FACTORY SURGEONS.

The position of certifying factory surgeons is in danger. This has been in some cases a lucrative and easy office, especially where large districts were held, though of late years it has not been so pecuniarily advantageous. Mill-owners state that the factory surgeon is not required, certificates for school attendance being sufficient to indicate age of children. We can hardly admit this plea. The factory surgeon should have something more to do than pronounce on the age of the child. He should testify as to the child's fitness for work.

THE RESORT OF THE WELL-TO-DO.

The hospital is now the resort of the well-to-do. Originally intended for the poor, the hospital has degenerated. The poor have to go to the Union Infirmary, or the Parish Dispensary, their place being usurped by the subscribers, who give their three or four shillings a year, at mill yards, clubs, etc. Some of our old charities, originally endowed for the benefit of the necessitous poor, have been seized on by the better-to-do classes. The hospitals are sharing the same fate. We do not wonder at the outcry raised by the profession, or at its poverty.

THE KNIFE *VERSUS* ELECTRICITY.

We learn from the *Medical Register*, Philadelphia, that the quiet valley of the Ohio, the whilom home of Aaron Burr, has been surprised by a challenge. This is issued by Dr. R. Stanbury Sutton, of Pittsburgh, to Dr. E. S. McKee, of Cincinnati. Dr. McKee made a visit to Paris, and returned an apostle of Apostoli, the father of the treatment of fibroid tumours of the uterus by electricity in strong and accurately-measured doses. On several occasions since his return he has written concerning this subject, and at a recent meeting of the Cincinnati Academy of Medicine spoke of it as an "efficient substitute for the knife, which has been so generally feared in cases of fibroid tumours of the uterus." Dr. Sutton, who has a private hospital and belongs to the Tait school of gynecologists, bitterly opposed this method, and publishes a challenge to Dr. McKee, in which he offers to furnish him with three patients suffering from fibroid tumours of the uterus, furnish all the apparatus necessary, and support Dr. McKee and the three patients in his private hospital, and for each tumour removed, give the Doctor 1000 dollars, time limited to one year. Dr. McKee is to be the loser. Dr. McKee accepts the challenge provided all the conditions remain the same, except that the contest takes place in Cincinnati instead of Pittsburgh, not feeling justified in relinquishing his practice for six months or a year for the inducements offered. Dr. McKee cites as on his side many men of prominence as gynecologists.

THE LATEST RESULTS OF THE PASTEURIAN TREATMENT.

At the Epidemiological Society, London, February 13th, 1889, Mr. Victor Horsley attempted to give the failing Pasteurian method a little assistance, this being done by a paper, full of fallacies, upon the exposure of which it is almost useless to waste any more ink. The "too late" theory will hardly now be accepted in view of actual deaths, after two hours elapsing between the bites and the treatment; whilst, if the "too late" plea be accepted, say in the case of Lord Doneraile, then every case over eleven days must also be wiped out from the statistics, whereby they would be very much diminished. The latest deaths reported hardly sustain the panegyrics showered on the method. The following are particulars of three deaths, taken from the *Journal de Médecine de Paris*, February 17th, 1889:

Case I.—A——, of Cambes, Gironde, bitten on the hand, December 25th, by a dog suspected to be rabid. Cauterised five hours after bite. Sent immediately to Paris. Treatment commenced on December 28th. (This comes within the six days, and can hardly have a "too late" excuse.) Treatment continued for *four days*. The patient was sent to her home "*gueri*:" on January 12th began to be ill, then sent to Hospital for Children, dying of rabies of the convulso-paralytic type. Period of incubation, 16 days.

Case II.—X——, æt. 19 years, of Peyres-tortes, Pyrenees, bitten December 8th by a dog suspected to be rabid. *Sent the same day to Paris, where the Pasteurian method was immediately applied.* Treatment continued for the whole month. Patient discharged "cured." On the 5th January the poor fellow began with symptoms of rabies, dying on the 9th January, at Peyres-tortes. Incubation thirty days.

Case III.—Rose M——, æt. three, of Belbeuf, badly bitten, December 13th, by a dog, which had been bitten by a suspected dog. Sent *immediately* to Paris, and treated from December 15th, 1888, to January 5th, 1889. The child died of mixed rabies on the January 9th. Incubation twenty-two days.

The editor says: "These three cases in which the Pasteurian method was immediately applied at the laboratory itself, and with all the perfection introduced into Pasteurian therapeutics during the past year, carry with them a sad lesson. Not only these cases of death, added to the 160 we have already collected, demonstrate that M. Pasteur does not cure rabies, but they confirm the fear we were the first to express in 1887. At that period owing to the numerous deaths which had taken place in individuals who certainly had not rabies when they entered the laboratory, and who succumbed after presenting symptoms of a medullary affection, we said: the first method of treatment was inefficacious; the second method is dangerous. The mortality during 1886 in France, is higher than the mean mortality of twenty preceding years. Three years have passed since our initial protestations. We have now carefully collated all the facts; the mortality in France during three years has not diminished."

If we examine the recent facts, and notably the three cases of death above described, we shall see that the period of incubation has considerably diminished. Whilst the incubation was at a mean two months, now we see it at twenty-two days, so that we might conclude that the introduction of the spinal marrow, made by Pasteur, hastens the evolution of this terrible malady. This is a serious result, and well worthy of reflection. We are rather astonished at the appeals made to the English Government to subscribe to the Pasteur Institute. It is evident that M. Pasteur does not want funds, but he wants the prestige that will accrue to him from the support of the English Government. He could then turn to the crowd of unbelievers in Germany, Austria, Belgium, Holland, America; and say, "Look! at this endorsement from this noble Government of England, and its gratitude because I have treated two hundred patients." This would be a better card in his hand than the one he holds from the Sultan of Turkey or the Emperor of Russia. It is most remarkable that whilst all civilised countries are reducing their mortality from rabies, by simple measures, and without a Pasteur Institute, France, which is employing the same measures and which is the home of Pasteur, enjoys the questionable prerogative of having more dog-bitten patients than any other country, and as high a mortality as it has had any time—taking the mean mortality of the last twenty years. France has her palace of rabies. Is she to become the home of rabies?

New Remedies.

Arecoline.—It is now about three years since a volatile liquid alkaloid called *arekane* was separated by Herr Bombelon from areca nut. In a recent report by Herr Jahns, it is now stated that three alkaloids can be obtained from the same nut. The most important of these is arecoline ($C_8 H_{13} NO_2$), a colourless liquid alkaloid, readily soluble in water, alcohol, ether, and chloroform, and distilling at about 220° C. Its salts are mostly crystalline, readily soluble and hygroscopic. The hydrobromide, however, is not hygroscopic, and is the most stable of the known salts. Arecoline appears to be the special active principle of the drug to which its tænicidal properties are due, and approximates in its chemical composition to pelletierine, the vermifuge principle of the pomegranate, the formula for the latter being $C_8 H_{15} NO$. The second alkaloid discovered by Herr Jahns, arecaine $C_7 H_{11} NO_2 H_{20}$ is crystalline, stable, readily soluble in water and dilute alcohol, but insoluble in ether, chloroform, and benzol, and almost insoluble in absolute alcohol. It seems doubtful if this alkaloid is, strictly speaking, a true alkaloid, since its aqueous solution is neutral in reaction. It, however, appears to combine with acid, forming crystalline compounds, having an acid reaction and soluble in water. It appears to be physiologically inactive. It appears possible that arekane may have been only an impure form of arecoline, since they are both soluble in ether; the salts of the former were, however, only obtained in a varnish-like form, whilst those of the latter were procured in a crystalline state.

Strophanthus.—Recent researches have shown that the strophanthin obtainable from different species of strophanthus are not identical. M. Arnaud has proved that the active principle of *S. glaber*, a native of the Gaboon, is not the same as that of S. Kombe, although curiously enough it appears to be identical with an active principle called oubain, obtained from a plant called by the author Aokanthera ouabaio. Specimens of the crystals of oubain were exhibited at the February meeting of the Pharmaceutical Society in London. The diuretic principle of strophanthus is stated by M. Catillon to be left in the seed after the removal of all the strophanthin, and to consist of an amide, obtained as a calcium compound. It is soluble in water, 70 per cent. alcohol, and gives some alkaloid reactions. It is less soluble in strong alcohol. Its diuretic properties have been tested both upon rabbits and human beings.

Antipyrin seems likely to prove a valuable remedy in more ways than one. Introduced at first as an antipyretic, it is now known to possess powerful anodyne properties over pain of rheumatic origin or neuralgia, a single dose being sometimes sufficient to relieve pain and cause sleep when ordinary remedies have failed. The unpleasant symptoms sometimes arising from its use, such as urticaria, congested mucous membranes, and full and quick pulse, have been found to give way under treatment with small doses of atropine.

β-Napthol mercury has just been introduced under the name of *Hydrargyrum naphtholicum*, as an antisyphilitic remedy. It is in the form of a neutral, yellow, odourless powder containing 30·8 of metallic mercury, and is insoluble in ordinary solvents. It forms a green oily liquid when melted, but if heated more strongly carbonizes, globules of metallic mercury being set free. Mixed with 50 or 100 parts of roasted kieselguhr, or rubbed up with fresh albumen and diluted with water, it is said to promote the healing of wounds in a wonderful manner. It is said to be also very useful in the treatment of typhoid fever, since it has a specific action in killing the typhoid bacillus. For this purpose it is given in doses of 0.05 grain several times daily, according to the weight of the patient. A naphthol-mercury acetate has also been prepared in the form of a pale yellow, odourless and tasteless powder. A third new mercurial compound is thymol-mercury acetate, which is stated to have been used with success as an antisyphilitic. Internally it has been given in the form of a pill, in doses of 0.05 to 0.1 gram. Externally it has been administered in the form of intra-muscular injections, which are stated to seldom produce either smarting or infiltration. It is a white crystalline powder, tasteless and odourless, almost insoluble in water, but soluble in dilute alcohol.

Euonymin.—Attention has lately been directed to the fact that euonymin, as met with in commerce, is a very unsatisfactory preparation, due in great measure to the demand for a *green* euonymin, under the erroneous supposition that it is a better article than brown euonymin. The analysis of several samples obtained from different makers has shown that no sample out of twelve examined contained more than 35 per cent. soluble in rectified spirit; and in four specimens 20 per cent. of barium carbonate were found. No barium carbonate was found in brown euonymin. It appears that in order to supply euonymin in powder, most of the American manufacturers find it necessary to add to the alcoholic extract twice its weight of some absorbent powder. As euonymin is generally prescribed in pills, and there is no special advantage in using the powder, it is obvious that the profession would find it to their advantage to order an alcoholic extract of the bark of euonymus atropurpureus rather than a powder for which no definite formula exists, and which varies in strength according to the quantity and kind of diluent added by each manufacturer.

Embelia ribes was some few months ago examined by Dr. C. J. H. Warden, of Calcutta, who found the active principle to be embelic acid. This substance, however, being insoluble in water, salts of potash ammonia and soda were prepared, and it was found that the ammonia salt was the one most readily obtained in the crystalline form, the acicular crystals having a fiery red hue. It is made by adding excess of ammonia to a strong alcoholic solution of embelic acid, and allowing the liquid to evaporate spontaneously. Experiments made with the ammonium salt show that it is an effective tœnicide in doses of three grains for children, and six grains or more for adults, and that it succeeds in cases in which ordinary tænicide fails. It is moreover tasteless, thus presenting a considerable advantage over male fern. A considerable quantity of the fruit of embelia ribes has recently been sent to this country from India, and the remedy is therefore now practically within reach of the English therapeutist.

Nitrite of amyl.—Some experiments lately made by Dr. Lauder Brunton and Professor Cash with pure nitrite of amyl, prepared in the Research Laboratory of the Pharmaceutical Society, show that the pure preparation is less active than the ordinary nitrite of amyl met with in commerce, and that this is probably due to the fact that the commercial article usually contains a mixture of α-amyl nitrite, β-amyl nitrite, and isobutyl nitrite, the latter being present to the extent of about 10 per cent., also propyl nitrite, the amyl nitrites constituting about 10 to 50 per cent. of the mixture. The pure isobutyl nitrite has been shown by Professor Cash to be more active, or at all events more prompt in its action than a mixture of the α-amyl and β-amyl nitrites, and to be more powerful than the official liquid, which contains all three nitrites. The action of the pure α-amyl nitrite is still under investigation by Professor Cash.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. KESTEVEN, M.D.

A New Method of Treatment of Synovial and Sebaceous Cysts, and Superficial Cutaneous Cysts generally. By Dr. H. Barth, of the *Hôpital Broussais* (*L'Union Médicale*, January 15th, 1889).—After one or more punctures, and the injection of Fowler's solution into a lymphadenoma, a certain amount of local reaction is observable, with swelling and increased sensibility in the tumour, and the formation of abscess seems impending, but if the injection be not repeated things will go no further. In the course of a few days the inflammatory appearances subside, the tumour returns to its primitive dimensions, and will undergo a consecutive atrophy and finally disappear altogether. Miniwarder, who has studied the effects of these arsenical injections, explains the result as being the effect of the arsenious acid in causing disintegration of the albuminous elements of the structure—a necrobiosis of the tissues, favouring their absorption. This purely chemical theory appears to M. Barth to be insufficient

to explain the special action of arsenic on the morbid structure, but that a moderate degree of inflammation in the gland favours its atrophy in accordance with the laws of the absorption in general of morbid products. From this datum it was probable that certain non-malignant tumours might be treated in the same way. The first case in which he put this plan into execution was that of a girl, aged twelve years, having a ganglion on the wrist which had resisted all other methods of treatment. The operation occasioned some swelling, which, however, shortly subsided, and the tumour disappeared. In the next instance the patient was a woman, aged thirty years, who had a wen which no local applications affected. One drop of the Fowler's solution was injected, and followed by the same phenonema as the ganglion before-mentioned. A second injection was required in this instance. In fifteen days the wen had wholly disappeared. M. Barth records six others of sebaceous, besides several synovial cysts. In one case the arsenic appeared to have escaped into the adjacent structures, and caused inflammatory swellings, which however subsided after a few days. No inconvenience has been seen to result from the use of arsenic as above indicated, care having been taken as to the nature of the cysts and tumours operated upon. The manual operation is simple, the wound not more than that inflicted for the injection of morphia. The pain does not endure long, and may be notably diminished by the addition of one or two per cent. of cocaine to the Fowler's solution.

Spasm of the Glottis, of Nasal Origin (*L'Union Médicale*, January 15th, 1889).—Dr. Ruault submits the following conclusions:—1. Certain lesions of the mucous membrane of the nasal fossæ may provoke reflex spasm of the glottis, so serious as to demand tracheotomy. 2. These attacks may continue for years, and yield quickly to treatment of the nasal affection on which they have depended. 3. Both sexes present instances, but hysterical females are most frequently subjects thereof. 4.—Infants as well as adults may be attacked by this form of spasm. 5.—Bronchial spasm may occur at the same time. 6.—Affections of the voice are a complication often met with. 7.—Prognosis is favourable where the cause is known. 8.—Diagnosis is obtained by exclusion of other causes, by the history of the case, and by rhinoscopical examination with the help of a sound and the use of cocaine. 9.—The treatment of an attack is, according to its severity, bathing the parts with solution of cocaine, the administration of chloroform, and the operation of tracheotomy if required. 10.—Treatment is to be directed to the affection of the nostrils.

Case of Partial Aneurism of the Left Ventricle of the Heart. By Dr. Nino de Andrade (*L'Union Médicale*, quoted from *O Brazil Medico*, September, 1888).—The patient, an intemperate man, had suffered from marsh fever, presented a case of ascites, without œdema or albuminuria. After the performance of paracentesis the liver was found to be greatly enlarged. The dulness of the right side of the heart was much extended, a systolic *souffle* existed, its maximum being heard over the jugular vein. In the reclining posture the venous distention was "enormous," but disappeared on resuming the upright position. The diagnosis was insufficient tricuspid valve, compression of the diaphragm and vena vava by the liver in the horizontal position. Autopsy: partial false aneurism of the left ventricle, situated in the angle of the intra-ventricular groove. This appeared to be due to myocarditis that had followed upon pericarditis, the thickened pericardial deposit formed the external wall of the aneurism, communication existed with the ventricle by two openings. The venous pulsation and the *souffles* were caused by compression of the auricle by the aneurism.

Progressive Pernicious Anæmia (*L'Union Médicale*, January 22nd, 1889).—The investigations of MM. Planchard, Hanot, and Legris have established the fact of the existence of the disease named PERNICIOUS ANÆMIA, a disease which may be distinguished from those states of the blood in which an autopsy reveals the cause. From the etiology of the disease, cancer, tuberculosis, and intestinal worms must be excluded. The anæmic condition may be secondary to the presence of the last named organisms. Among the effective causes are debilitating agencies, distress, excesses, and pregnancy. This last explains the more frequent occurrence of this condition in women than in men. The disease also occurs frequently after prolonged diarrhœa. The morbid condition affects the entire body; the viscera are discoloured, the liver and digestive organs show most notably their lesions, the mucous membrane of the stomach and intestines is thickened and degenerated; fatty degeneration of the liver is observed in most instances. The most important alteration is observed in the blood; its colour becomes like that of amber, and coagulation takes place tardily, the number and colours of red globules is diminished, their size is somewhat increased. The authors quote Dr. Copeman (*St. Thomas's Hospital Reports*, xvi.) to the effect that the red blood globules are generally small, 4 to 6 μ, and that minute globules are present, 3 μ (1 μ = about $\frac{1}{25000}$ English inch). The formation of crystals of hemoglobine, noted by Dr. Copeman in the blood when a drop is allowed to dry, is also repeated by the authors. Several observers who have noticed the larger size of the blood globules are cited. M. Planchard has collected the results of bacteriological examinations of the blood. Bernheim has observed long jointed bacilli, which however Feltz and Engel have not been able to cultivate or inoculate. Fraakenhauser and Petrone have described small, spheroidal, and moving organisms, of about one tenth the diameter of a blood globule, furnished with processes; with these also other longer and more mobile forms. Petrone had inoculated rabbits with these micro-cocci, and induced general anæmia. No actual results have been obtained with reference to analogy between pernicious anæmia and microbic infectious diseases. The symptoms in this malady are dependent upon the poorness of the blood; they are gradual in their approach; debility is general and progressive. The intellect is not generally impaired, but there may be slight and passing attacks of delirium. Palpitation, with systolic *souffle*, is commonly to be heard. Hæmorrhages are frequently met with. Deranged digestive functions also are very general. Although named *pernicious*, this form of anæmia is not incurable, and remissions occur after long intervals, the course is almost always to death, which may occur suddenly from an intercurrent disease, or take place slowly with gradual failure of all the powers. Of remedies, arsenic appears to be the most reliable medicine.

On the Use of Linen Thread for Ligatures and Sutures. By Dr. Heyder, St. Johanne's Hospital, Bonn (*Centralblatt für Chirurgie*, December 22nd, 1888).—The high price of surgical silk (in Germany ?) has determined Professor Freudelenburg to use hemp or linen thread for sutures and ligatures. The thread is prepared for surgical purposes by steeping it for twelve hours in a one-per-cent. solution of corrosive sublimate.

New Remedies.—*Sulphonal—a New Narcotic* (*Journal de Médicine de Paris*, January 20th, 1889).—Two notices of this substance have appeared in the preceding volume of this journal (pp. 278 and 320). We supplement these by the following abstract. Sulphonal is a hydrocarbon existing in the form of a prismatic crystal, soluble only in 100 parts of cold water; soluble in twenty parts of boiling water, alcohol, ether, benzole, and chloroform. One of the earliest observers, Prof. Kast, of Fribourg, noted that when administered to dogs it produced signs of drunkenness followed by sleep. In man, the dose of a gramme given at bedtime produced sleep in about an hour's time—sleep was light, but dreamless, succeeded on waking by a condition of comfort. Sulphonal is of service in nervous insomnia in doses of from one to two grammes. As the case with all good hypnotics, having produced the desired effect a few times, sleep will follow sometimes merely under the influence of suggestion, without the sulphonal. It has been given with benefit in the neuralgic and rheumatic affections, in delirium tremens, in mania, hypochondriasis, and in acute febrile disorders. In morphiomaniacs it may be given in doses of two grammes as a substitute for morphia. It occasions no disturbance of the heart's action in hypertrophy. This medicine being tasteless, may be given with bread, milk, tea, warm fluids, and alcoholic drinks.

"*La Phénacethydeazine.*"—A new antipyretic recently introduced by M. Dreschfeld. M. Lepine states that he has administered this remedy in cases of locomotor ataxia with advantage in doses of three grammes.

Aërated Milk.—Milk is not used only as an alimentary substance, it is also frequently employed as a medicinal agent; such is the mixture of milk with aërated water in disorders of digestion and affections of the lungs. The carbonic acid of aërated water is said to promote the digestion of the proteic elements of milk. The insipidity of the mixture may be obviated by the direct addition of the carbonic acid to the milk, and sapidity ensured by an addition of about twenty grains of bicarbonate, or chloride of sodium, the addition of which favours also the presevation of the milk. This may be employed pure or skimmed. The aërated milk is an excellent remedy in hoarseness. If the milk be desired sweet small quantities of sugar or saccharin may be added.

The Disinfecting Properties of Lime.—The influence has been examined (1) of lime water upon the bacilli of typhus and cholera; (2) of milk; (3) of powdered quicklime; (4) of fragments of quicklime, upon the bacilli of cholera. The following results are stated: (1) An aqueous solution of lime, 0.0074 to 0.0246 per cent., kills the bacilli of typhus or cholera in an hour. (2) The culture of cholera bacilli in bouillon is completely disinfected by the addition of 0.4 to 0.2 per cent. of caustic lime. (3) This destructive action is most energetically exerted when powdered quicklime, or milk of lime, is used at twenty per cent. Hence quicklime is to be regarded as an active disinfectant.

Diuretic Action of Strophanthus (*Journal de Médicine de Paris*, January 20th, 1889).—At the sitting of the Academy of Medicine,

Paris, January 15th, M. Dujardin-Beaumetz dwelt upon the superiority of strophanthus over that of digitalis in feebleness of the heart's action. Its only inconvenience he pointed out was its tendency to produce diarrhœa if its use be prolonged. Its diuretic action is prompt and rapid. Where there is deficient urinary secretions, its use should be suspended if diuretic action is not induced in twenty-four or forty-eight hours.

The Removal of a Sub-mucous Myoma by Laparotomy. By Dr. H. W. Freund, Strasbourg (*Centralblatt für Gynäkologie*, December 8th, 1888).—The patient, a woman forty-five years of age, had always enjoyed good health, had menstruated at the age of twelve years, regularly every few weeks. Six years since had borne a living child after a lingering labour, but suffered from detained placenta, and for six weeks was confined to her bed by uterine hæmorrhage. Subsequently the catamenia had become more profuse, her strength had diminished so that she could scarcely hold herself erect. On the 8th October she was admitted into hospital. She was then anæmic, and presented evidence of a tumour reaching to the umbilicus, and giving the appearance of pregnancy at six months, which however was excluded by the absence of auscultatory sounds and fœtal movements. Internal examination showed a fœtid yellowish discharge. The mucous membrane of the external organs was of a livid colour. The cervix uteri was firm, and admitted the finger to the internal *os*. In the dilated uterus the lower part of a hard tumour could be felt, inclined towards the right side of the fundus; no pedicle could be discovered. The removal of the tumour was indicated, but its size and connections precluded its removal by the natural passage. Two modes of its removal offered themselves; one the amputation of the entire uterus; the other the removal of its contents. The selection depended upon the diagnosis of the nature of the tumour. The operation of Professor Recklinghausen was determined upon. An incision was made into the *linea alba*, three fingers' breadth above the pubis. The abdominal walls were fat, the muscles well developed, peritoneum not adherent, no aseiles. The uterus rose in the incision, and had the size and appearance of six months' pregnancy; the appendages were normal. A tumour was met with in the interior cavity, and removed by the hand through the incision in its anterior wall, very little force being required for its detachment from the fundus on which it was placed. It then appeared that a second intra-uterine tumour was present at the posterior and left side of the fundus, it was readily removed by manual effort, and found to be another fibroma. The emptied uterus was much enlarged, and possessed a markedly thick muscular substance. The mucous membrane of the uterus was much thickened, and thrown into folds. The sublimate solution and iodoform were used in the performance of the operation. The healing of the wound took place without anything untoward. The weight of the tumours was 1520 g. (equal to 47 oz. 4 dr. English), they consisted of a fibrous, and in some places spongy tissue, in some parts hard nodules, but for the most part consisted of a fine porous cyst-like texture, containing a serous fluid.

On the Salutary Action of Perfumes (*Journal de Médicine de Paris*, January 20th, 1889).—M. Ungerer considers that perfumes and flowers exert a salutary influence over the system, and constitute a therapeutic agency of the first order. Residence in a perfumed atmosphere, he states, protects from pulmonary affections, and arrests the development of phthisis. Seven individuals, he alleges, submitted to this odoriferous cure had rapidly recovered their health. In support of his opinion the author states that in the city of La Grasse, the garden of Europe, phthisis is rare, an immunity owing to the odorous vapours exhaled from the numerous distilleries.

A New Method of Mixed Narcosis (*Centralblatt fur Chirurgie*, No. 49, December 8th, 1888).—M. Obalinski recommends the simultaneous local use of cocaine with the inhalation of chloroform. The quantity of chloroform required is much less, and sickness occurs much less frequently. Such local anæsthesia with half chloroformization is more certain than chloroform alone. The reporter, however (in *Centralblatt*), considers that this statement is not sufficiently borne out by results.

Report upon Thirty-seven Ovariotomies (*Centralblatt für Gynäkologie*, No. 1, 1889).—Dr. Dionys von Szabó, of the University, Budapesth, reports the particulars of thirty-seven cases in which he has performed ovariotomy. Of the thirty-seven operations four only passed through the period of recovery without elevation of temperature. In four slight elevation took place for a day or two after the operation; in nine there was some increase during the first four days; the subsequent course was free from febrile symptoms. In fourteen cases there occurred fever, followed by suppuration at the sutures. Two patients died of septic poisoning.

Total Extirpation of the Uterus (*Centralblatt für Gynäkologie*, January 5th, 1889).—At a meeting of the Association of Accoucheurs, of Berlin, November 23rd, 1888, Herr Keller exhibited an uterus affected with carcinoma, which he had removed from a patient seventy-five years of age. Thirty-eight years previously this patient had borne a child, and had ceased to menstruate twenty-five years since. Hæmorrhage had occurred at irregular intervals since last march. The uterus on examination had been found retroflexed and fixed, but the appendages were free. In August an exploratory curette brought away a portion of what proved, on microscopical examinination, to be an adeno-carcinomatous growth. In September the total extirpation of the uterus was effected by Dr. Winter, with some difficulty, on account of the narrowing of the vagina. The uterus was placed in alcohol to harden. On being opened the cavity appeared large relatively to the thickness of its walls. In the posterior wall, which was thickened, a myoma of about the size of a cherry was imbedded in the muscular substance. A tumour having a flocculent surface was found on the anterior wall; this tumour was soft and of a reddish grey colour, and passed gradually into the substance of the uterine walls. The cavity of the uterus was otherwise filled with coagula.

On the Treatment of Uterine Fibromata by Intra-uterine Electrolysis. By M. Deletang (*L'Union Médicale*, November 29th, 1888).—The immediate effects of electrolysis consist in (*a*) contraction of the uterus and its tumous; (*b*) congestion of the adjacent organs, continuing for several hours, and attended with colic; (*c*) sometimes a rapid subsidence of pre-existing hæmorrhages. The consecutive effects are: 1. Slight hæmorrhage. 2. Pain, with functional disturbance, quickly passing off. These phenomena have no relation to the tumour, but belong rather to the inflammatory zone surrounding it. 3. The mass diminishes. The morbid phenomena disappear, and the general condition improves. There may be a momentary aggravation of symptoms at the commencement of the treatment, depending upon congestion of the inflammatory zone.

II.—NOTES FROM FRENCH JOURNALS.

By H. R. HATHERLY, M.R.C.S.

Aneurism of the Subclavian (*Journal de Médicine*).—Dr. Saboia has laid before the Society of Surgery notes of a case of aneurism of the subclavian treated successfully by electro puncture. The treatment was continued fifty-five days.

Catholic Faculty of Medicine (*Gazette Hebdomadairè des Sciences Médicales*).—It is seriously proposed to establish a Catholic Faculty of Medicine at Lyons; a subscription list has been opened, and the first list of sums promised amounts to 400,000 francs.

Poisoning by Acetanilide (*Journal de Médicine de Paris*).—A case has been reported of death from an over-dose of antifebrin. A physician had ordered a dose of a quarter of a gramme to be given night and morning to a child. The father, however, who was over anxious, repeated the dose every two hours on his own responsibility. In the evening the child was found to be cyanosed, and suffering from collapse, the pulse being very rapid and feeble. The child died notwithstanding all efforts to neutralise, the effects of the over-dose.

Heavy sentence on Medical Men (*L'Union Médicale*).—Two medical men at Liege, who had been called upon to make a *post-mortem* examination on a patient who died from infectious metro-peritonitis under suspicious circumstances, have received an unusually severe sentence for forming conclusions which the autopsy did not warrant. The autopsy appears to have been made very carefully, every organ being minutely examined, and the evidence of a recent miscarriage was placed beyond doubt, but the medical men, Messrs. Grenson and Lenger, unfortunately for themselves, were of opinion that abortion had been caused by criminal practices. The summary of their official report is as follows:—

1. Marie Constant, the divorced wife of Dumont, has died from general, acute, purulent, and septic peritonitis, resulting from an extension of inflammation of the uterus and its appendages.

2. *This inflammation of the uterus and its appendages is the consequence of a mechanical irritation, which has caused an unnatural abortion about the sixth week of pregnancy.*

Accepting the general conclusions of the medical witnesses as to the fact of miscarriage, and even admitting that placental debris were found after six weeks pregnancy; accepting also the fact that death was due to puerperal peritonitis, the question arises: what were the facts on which they relied as justifying the addendum that the abortion was artificial, and the consequence of mechanical irritation? One of the medical witnesses affirmed before the correctional tribunal, "that they could not have formed so precise an opinion from the *post-mortem* alone, but they also had possessed the confidence of the woman." *L'Union Médicale* considers that such a statement in the mouth

of a witness, whose services are called in for a purely scientific object, is beyond comment. The result of the conclusions arrived at by Drs. Lenger and Grenson (based on private information in addition to strictly medical facts), has been a sentence of: four years imprisonment, a fine of a thousand francs, and forfeiture for five years of all civil and political rights (!)

A Medical Privilege (*Journal de Médicine de Paris*).—The right of a medical man to prior claim for his fees, although rent may be due to his patient's landlord, has not infrequently given rise to disputes in France. The courts of Rouen, Poitiers, and the Seine have decided that the debt due to a medical man for professional services must take precedence of any claim the landlord may have for rent: "It is an imperative motive of humanity which has guided the legislator in not depriving the dying of those cares which are absolutely necessary."

Syphilis in Paris (*Journal de Médicine de Paris*).—Dr. L. de Pileur has made a minute study of the statistics of syphilis in Paris, as it affects the mortality of mothers and infants, and the mathematical conclusions derived from his researches are as follows:

1. *Out of every one hundred pregnant women, fourteen will be syphilitic.*

2. *Out of every one hundred born of syphilitic mothers, including premature births and still births, seven at the most will survive a few months of their existence.*

Therefore it will be seen out of 64,657 births, or products of conception which took place annually in the town of Paris, 9,051 will be born of syphilitic mothers. Of these 8,418 will be still-born, or live only a few months after birth; 633 only will survive the first few months of extra-uterine life.

3. Out of one hundred children born in Paris, thirteen will die in consequence of syphilis in the mother, independently of all other causes of mortality.

Vaccination in Schools (*L'Union Médicale*).—An important regulation has recently been issued by the Minister of Public Instruction on the subject of vaccination. Henceforth every child who has attained the age of ten, must before being admitted or maintained in a primary school, be re-vaccinated by the medical officer attached to the school, or appointed by the school administration. In addition every candidate for a normal primary school must be provided with a certificate of vaccination and of re-vaccination.

Treatment of Exophthalmic Gôitre by Cultivated Hemp (*L'Union Médicale*).—The physiological action of cultivated hemp is similar to that of Indian hemp, but cerebral phenomena are either not produced or are much diminished. It requires double the dose to produce the same effect as Indian hemp. The most active preparations are the resin of hemp, the tincture, and the dried leaves in lozenges, tinctures, and fumigations. In the last place we have the pharmaceutical extract of the fresh herb, and the aqueous extracts. Dr. Valieri cites three cases of exophthalmic gôitre in which considerable improvements was obtained whilst exhibiting this remedy.

Treatment of Cholera (*L'Union Médicale*).—The number of new remedies for cholera, which have been brought under the notice of the Academy of Medicine amounts to four. M. Gamaleia recommends vaccination; M. Duboué (of Pau) intra-venous injections of water; M. Gibier advises bichloride of mercury; and M. Löwenthal (of Lausanne) salol. Such a variety of treatment does not appear to penetrate the obscurity which still surrounds the therapeutics of cholera.

Treatment of Acne (*Journal de Médicine de Paris*).—Lassar recommends the following treatment of acne: Apply an ointment of naphthol (one part to ten of excipient), and in half an hour or an hour's time wipe it off with tow, and wash the part affected, using soap. The following day a slight irritation with desquamation of the skin will be noticed; the treatment must be continued daily for a week or sometimes a fortnight, when desquamation will be complete. No scar is produced. If the irritation is too severe it can be relieved by an application of oil or of some emollient ointment. In obstinate cases ten per cent of camphor may be added to the naphthol ointment, but in such cases the ointment should be applied for half an hour. Another remedy which has yielded equally good results, is an ointment composed of resorcin, two and half parts; oxide of zinc and starch, of each five parts; vaseline, twelve and half parts. The ointment must be applied to the part affected during a day and a night, and removed by oil.

Chronicles of Hydrophobia (*Journal de Médicine de Paris*).—*La Semaine Médicale*, formerly an insane Pasteurite, at present never allows an opportunity to pass of having a sly hit at "the great man," since Messrs. Grancher and his colleagues have started the *Bulletin Medical*, which is a rival publication. The following paragraph is from the *Semaine*: "M. Grancher having announced, in the speech which he made at the inauguration of the Pasteur Institute, that there were at the present time, upwards of twenty anti-rabic institutions scattered all over the whole world, assigns one to Vienna."

The *Weiner Medicinische Presse* replies to this statement by the following note: "The fact stated by M. Grancher is evidently erroneous. M. Ullmann, the only doctor in Vienna who has, so far as we know, practised anti-rabic inoculations on man, has been obliged to discontinue them, the government having refused to pay the subvention which was absolutely necessary. It is to be hoped that M. Grancher is better informed with regard to the remaining institutions."

To this note the *Bulletin Medical* retorts by a letter from the celebrated Ullmann: "Since the Congress of Hygiene (September, 1887) until the present time I have treated thirty-one persons, all of whom are well." Let us admit the fact: Ullman has inoculated thirty-one persons, bitten or not, mad or not, it matters but little; but how are we to explain that the number of cases of hydrophobia is thirty-one in fifteen months at Vienna; whilst M. Pasteur discovers three or four thousand cases every year in France alone. Decidedly hydrophobia is a very obscure disease! Let us end our chronicle by quoting the vote of the medical hygienists assembled at Brescia, who declared "that the Pasteur method was either useless or dangerous." That has been our opinion for a long time past.

Prohibition of Public Manifestations of Hypnotism (*Journal de Médicine de Paris*).—In Belgium on the proposition of M. Masoin, public exhibitions of hypnotism have been prohibited. We hope that the same course will be adopted in France. Thus spoke M. Gluge at the Academy of Medicine of Brussels: "I have been an attentive spectator of the diverse manifestations, analagous to hypotism, which have taken place during half a century; I noted the alleged action of remedies at a distance, which were believed in until a short time since, and which were already discussed fifty years ago by the magnetisers. All this has fallen into profound oblivion, which is also well deserved. The hypnotism of the present day will vanish in like manner, without leaving the least trace either in physiology or therapeutics."

Salicylate of Mercury (*L'Union Médicale*).—Amongst new remedies may be mentioned the salicylate of mercury. This salt was first studied by Lejoux and Grandval, and was first prepared in Brazil, by Messrs. Veiga and Delgado in 1886, and has been much used by the physicians of the Rio. Dr. A. Duprat has laid before the Society of Biology, an essay on its physiological action, and Dr. Silva Aranjo has devoted much time to its study, and many other authorities may be cited. Salicylate of mercury forms a white inodorous amorphous powder, which contains 50 per cent. of active ingredient. It is incompatible with mineral salts. It may be given in pills containing twenty-five milligrammes three times a day. It is well tolerated by the stomach, and leads to no gastro-intestinal troubles so commonly caused by other preparations. Hypodermic injections have not been much used. Moura-Brazil and Neves da Rocha give the following formula: Salicylate of mercury, five to ten milligrammes; distilled water, ten grammes. Patients has received from six to sixteen injections at intervals of from two to three days. Eight to ten injections are generally required. There is very slight local action, and no abscesses or indications of general poisoning have been noticed. Applied externally salicylate of mercury stimulates enormously the healing of abrasions of mucous tracts, and cutaneous ulcerations. It causes the reabsorption of non-ulcerating syphilomata. Szadek mixes the salicylate with subnitrate of bismuth, and makes an ointment. It has also been used successfully in the treatment of parasitic skin diseases, in urethral injections for blenorrhagia, and as a collyrium in catarrhal and granular conjunctivitis.

III.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

On the Therapeutic Use of Antifebrin.—In the Polish weekly *Gazeta Lekarska*, No. 48, 1888, Dr. Wroczynski (pron. "Vrotchinskee") says that having employed antifebrin as an antipyretic in a number of cases of croupous pneumonia, pulmonary phthisis, small-pox, scarlatina, and enteric fever, he has arrived at the following conclusions:—(1) In pneumonia, antifebrin proves to act apparently, not only as an antipyretic, but even as a "specific" remedy, since it very markedly mitigates the inflammatory process, and prevents any intense infiltration. It is contra-indicated, however, in pulmonary inflammation occurring in elderly and exhausted people. (2) In phthisis, the drug is of no use whatever, though it is tolerated by patients fairly well. (3) In typhoid fever, scarlatina, and small-pox, any beneficial effects which might occasionally arise from an antipyretic action of antifebrin, are annihilated and outbalanced by harm resulting from a depressing and weakening influence of the drug. In fact, the course of enteric fever distinctly becomes more protracted and aggravated.

Acetate of Lead in Chapped Nipples and Mastitis.—In the Moscow weekly *Novosti Terapii*, No. 12, 1888, page 455, Dr. A. Nesvitzky highly recommends the treatment of fissures and erosions of the nipple in suckling women, by means of daily dressing with the following salve :—

℞ Plumbi acetici .....gr. ix.
Solve in aq. distill. ..... ʒ ss.
Deinde adde cera flavæ ..... ʒ ij. ss.
Vaselini flavi ..... ʒ j.

M.D.S.—To spread a layer as thick as a table knife's back on a piece of soft linen, and to apply to the parts. A considerable amelioration of all subjective symptoms occurs within twenty-four hours, the lesions healing fairly rapidly. The same dressing is employed by Dr. Nesvitzky as successfully in cases of painful indurations of the mammary gland, occurring during the lactation period. The plaster should cover not only the affected part, but also an adjacent healthy zone. The results obtained by the author in the said affections are so uniformly successful, that he has long ago given up all other means, such as various lotions, paintings, cauterisation with nitrate of silver, etc.

Jequirity in Ophthalmic Practice.—In the Kïev bi-monthly *Vestnik Oftalmologii*, Nos. 4 and 5, 1888, page 339, Dr. Serghei N. Lojetchnikoff, house surgeon to the Ophthalmic Hospital, Moscow, publishes an able and very instructive account on his extensive experience in regard to the use of jequirity in ophthalmic practice. The main points may be briefly given as follows :—1. Jequirity is one of the best remedies for trachoma and trachomatous pannus, since, when employed in suitable cases, and in a rational way, the drug invariably shortens and ameliorates the morbid process (especially on the cornea), and prepares a favourable ground for a further treatment of the lesions by other means (best of all, by a from eight to sixteen per cent. solution of nitrate of silver). 2. The suitable cases first alluded to are protracted and neglected forms of a genuine trachoma, free from such complications as trichiasis (which should be removed before the jequirity treatment), or acute and subacute blenorrhœal phenomena. Folliculosis and follicular catarrh have nothing in common with trachoma, and, at all events, are not fit for the treatment. 3. The safest and most effective mode of the treatment is said to be this : the drug is to be used in the shape of a five per cent. infusion of powdered jequirity seeds, prepared invariably *ex tempore* by a *cold* maceration of six hours' duration, with a decanthation (without filtration). The eyelids having been everted, and the eyeball carefully protected, the conjunctiva is painted with the infusion, which is allowed to remain in contact with the membrane for half a minute, and then is removed either by irrigation, or by wiping with a piece of dry hygroscopic cotton wool. As a rule, the reaction sets in a few hours, and reaches its maximum in forty-eight hours. Sometimes, however, it develops by far more slowly, or proves to be absent altogether. In the latter case the painting should be repeated in about three days after the first application. In such cases where the reaction is obtained, a second painting should be resorted to only after all inflammatory phenomena have disappeared. A too frequent application of the infusion may give rise to ulcers and sloughing of the cornea, and even to a complete loss of the patient's eyes (as has actually happened in Knapp's and Jacobsohn's cases). 4. Jequirity causes a cicatrical degeneration of a trachomatous conjunctiva, which, while shortening and improving the morbid process, puts an end to the cicatricial degeneration determined by the disease itself. 5. As to the jequirity treatment of corneal opacities (corneal sclerosis caused by parenchymatous keratitis), once highly eulogised by De Wecker, it must be discarded altogether, since it fails to effect cure, but instead, gives rise to a most marked cicatricial degeneration of a previously healthy conjunctiva, obstinate conjunctival catarrh, and even to dacryocystitis. The latter, however, may sometimes complicate *ophthalmia jequiritica* even on the treatment of trachoma, as Drs. Lojetchnikoff, A. A. Basanin, Vossius, and Simi have happened to observe more than once.

Cocaine in Surgical Practice.—In the Geneva monthly *Revue Médicale de la Suisse Romande*, January, 1889, p. 44, Dr. F. Buscarlet, house surgeon to Dr. Reclus's wards, L'Hôpital Tenon, Paris, details the results obtained from the use of hydrochlorate of cocaine as a local anæsthetic in 200 cases of various operations. The drug was invariably employed in the shape of a five per cent. solution which was injected by means of a Pravaz's syringe into the subcutaneous cellular tissue along the line of the incision, the dose in individual cases varying from one to two syringefuls (from five to ten centigrammes of the alkaloid), but occasionally amounting to three or four (fifteen or twenty centigrammes). A complete local anæsthesia was established usually in three to seven minutes, to last for about half an hour. The procedure never gave rise to any alarming accessory effects. In only one patient, æt. sixty-five, with vaginal hydrocele, in whom, after the withdrawal of 250 grammes of the fluid, the cocaine solution had been injected into the sac, the injection was followed, in fifteen minutes, by fainting, accompanied by a sensation of suffocation, coldness of the limbs, cold perspiration and agonising pain about the corresponding groin. The symptoms, however, disappeared after a short while. In a few other cases referring to circumcision, or to ablation of tubercular ganglia, there were observed attacks of suffocation with constriction of the throat, lasting for a few minutes. In all those cases a bad specimen of cocaine was used, which did not bring any anæsthesia. Not a single accident could be registered when a good preparation of the alkaloid was employed. The treatment adopted in the cases mentioned above consisted in hot bottles, subcutaneous injection of ether, and internal administration of half or one gramme of caffeine. On the whole, Dr. Buscarlet comes to the conclusion that cocainisation, when practised with due precautions in regard to the dosage and quality of the drug, represents an as safe as useful procedure, considerably simplifying many surgical operations. It was most successfully resorted to in the following cases : 1. *Incision into purulent gatherings*, including cervical phlegmons, axillary and perianal abscesses, acute suppurative lymphadenitis, etc., where cocaine not only does make the incision quite painless, but also, in virtue of its pronounced hæmostatic actions diminishes bleeding, and allows to operate at leisure. 2. *Incision into, and scraping out, cold abscesses and caseous ganglia.* 3. *Incision into hæmatomata.* 4. *Extirpation of sebaceous cysts, lipomata, fibromata, and hygromata* of a moderate size, in absence of extensive adhesion, involving prolonged dissection. 5. *Circumcision for phimosis*, which is converted by cocaine into a both painless and bloodless operation. 6. *Thermocauterisation of anatomic tubercles.* 7. *Amputations and exarticulations of fingers and toes*, resection of the head of the first metacarpal bone, *curettage* of carious tarsal bone, etc. 8. *Excision of anal fistules*, with subsequent suturing the wound. 9. *Castration* for tuberculosis of the testicle. 10. *Internal urethrotomy.* And 11. *Tapping aud injections of iodine* for vaginal hydrocele.

On Rudimentary Croupous Pneumonia in Children.—Dr. N. Urdariano has published an interesting monograph on the above subject (*Geneva Inaugural Dissertation*, "De la pneumonie franche rudimentaire chez les enfants," 1888), based on the study of eighteen cases from Professor D'Espine's clinic. According to the author's definition, the "rudimentary pneumonia" represents a "croupous pneumonia, usually of a short duration, in which all signs of pulmonary infiltration are reduced to their simplest expression, while all thoracic functional symptoms are either absent altogether, or pronounced so slightly that the clinical aspect assumed by the affection resembles that of an essential fever, but not that of a pulmonary disease." The variety is said to be by no means identical with the so-called "abortive pneumonia," since the former is not necessarily of a short duration, and may occasionally last for eight or nine days (as in a case published by Professor D'Espine). An "abortive pneumonia" is a most frequent variety of the rudimentary one, lasting not longer than three days. The general propositions laid down by Dr. Urdariano are these : 1. Rudimentary pneumonia is a disease which frequently occurs in children. 2. It is caused by Fraenkel's pneumococcus (since the author has been able to detect the microbe in the sputa from two patients of the kind). 3. The affection is characterised (*a*) by a high and usually sudden rise of the temperature ; (*b*) by a commonly short duration of fever ; and (*c*) by a rapid recovery, which is often accompanied by a subnormal fall of the temperature (*hypothermie*). 4. It is differentiated from the classical form (*a*) by a slight and limited infiltration of the lung ; (*b*) by mild functional symptoms, as well as (*c*) by slight physical signs. 5. The predomination of febrile phenomena, and sometimes the presence of nervous complications may lead to considerable difficulties in recognising the true nature of the case, and in differentiating the affection from other diseases.

On Acute Infectious Osteo-myelitis.—At the third General Meeting of Russian Practitioners of St. Petersburg, Professor Alexander A. Bobroft, of Moscow, has read a paper (*Vratch*, 1889, No. 2, p. 50) on "Acute Infectious Osteo-myelitis," in which he puts forward the following corollaries :—1. The disease is apt to occur mainly in adolescents. [The author has met with ten cases of osteo-myelitis, of which nine refer to the subjects of from twelve to nineteen years of age, and only one to a woman of twenty-six.] 3. It attacks usually epiphyses of long bones –namely, the lower one in the femur, and the upper in the humerus and tibia. 3. The pathogenic agent is constituted by the *Staphyloccus pyogenes aureus* which penetrates into the organism, either through some lesion of the integuments (abscess, etc.), or through diseased lungs. 4. The penetration of the microbes alone, however, is not yet sufficient to give rise to osteo-myelitis. The latter can arise only when there are simultaneously present some favourable local conditions, such as traumatic lesions (which were found in six out of ten

cases of Dr. Bobroff). 5. The disease imperatively demands an energetical and an as early as possible surgical interference in the shape of trephining and scraping out the medullary cavity. 6. The operation by itself is harmless. The author has performed it in six of his cases, with one death (depending seemingly upon an incomplete scraping out of the medullary cavity). Of the remaining four cases of his, one died without operation; in three, the treatment was limited to a simple incision into the abscess; two of them died, one recovered.

The Spirit of the Societies.

Royal Medical and Chirurgical Society (Sir Edward Sieveking, M.D., president). **Back-knee, Knock-knee, Bow-knee, and other Deformities resulting from Deficiency of Growth at the Epiphysical Lines.**—Professor Humphry contributed a case and specimen of what he called "back-knee," in which the deformity was seen to result from a sharp bend backward near the upper end of the tibia, due, as it appeared, to a deficiency in growth at the fore-part of the epiphysical line. Knock-knee, it was stated, depended in most cases, not as commonly said, upon over-growths of the internal condyle of the femur—over-growth in a bone, or part of a bone, being a rare occurrence—but upon deficiency of growth of the outer or condyloid part of the femur at the epiphysical line. A specimen was shown. The deformity was in some cases exaggerated by rickety flexure in the femur or tibia, or both, and might be entirely due to such flexure. Bow-knee might be also due to similar flexures in an opposite direction, but was often dependent, partly or wholly, upon deficient growth at the inner part of the epiphysical line of the tibia or of the femur.—Mr. Lockwood brought forward a specimen he had obtained in a dissecting-room from a man, æt. forty-six, in which the condyles of the femur were unequal. It was hard to say whether the external was too large or the internal too small; the former was the more probable, though there was no trustworthy normal size to guide them.—Mr. W. Adams said that the paper of Professor Humphry's formed another example of the great value of his suggestions, in which he thought they would all agree, though it was possible they might interpret his facts differently. Professor Humphry has spoken of all these specimens as rachitic, and had assumed in all of them a weak epiphysical line.—A good discussion took place on the paper, which was joined in by Mr. E. Owen, Mr. Pye, Mr. Willet, Mr. Noble Smith, and Mr. C. B. Keetley.

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Northumberland and Durham Medical Society (James Murphy, M.D., president). **Progressive Muscular Atrophy.**—Professor Philipson exhibited a seaman, æt. sixty-four, who had been shipwrecked four times, a circumstance which probably played a part in the causation of his illness. Twenty months before he had weakness in the left arm; he was now unable to raise it, and the right arm was now similarly affected. The deltoids, triceps, and interossei, etc., all exhibited fibrillary movement. The diagnosis was based upon the increasing atrophy, paresis, and fibrillation.

External Urethrotomy.—Mr. Williamson showed a man upon whom he had operated for gonorrhœal stricture, followed by retention of urine, œdema, sloughing of the penis, and perineal abscess. The patient had made a good recovery, being now able to hold his urine for five hours.

Rupture of the Bladder.—Mr. Rutherford Morison showed a bladder which he had removed from a man, æt. twenty-five, who had suffered from gonorrhœa followed by retention of urine. On the second day of retention the patient felt something give way in his abdomen, had pain, and vomited. He was admitted into the infirmary in a state of collapse. The abdomen was opened, and in the upper and posterior part of the bladder a hole, the size of a split pea, was found; this was stitched. The patient died on the fourth day from adhesive peritonitis, evidently due to irritation from the urine which had escaped into the abdominal cavity prior to the operation.

Hysterectomy during Labour.—The President read a paper on the treatment of labour complicated with malignant disease of the cervix.—After discussing the question whether cancer favoured or prohibited the occurrence of pregnancy, and declaring himself in favour of the latter view, Dr. Murphy dealt with the question of treatment in cases where (1) the cervix only was affected, and (2) where the surrounding tissues were also involved. He had removed the uterus from a woman, æt. thirty-three, who had been four days in labour. She died from exhaustion the next day. The specimen was shown.

Clinical Society of London (Christopher Heath, F.R.C.S. president). **Nerve Grafting.**—Mr. Mayo Robson (Leeds) showed a little girl, æt. fourteen years of age, on whom he had successfully grafted two inches and a half of the posterior tibral nerve into a corresponding gap in the median nerve in the forearm. He also showed the tumour which had involved the median nerve, and had necessitated its removal above, and below, to a cord which appeared to be inseparably blended with it. The attachments had to be cut through. A microscopic examination showed that the cord was composed of nerve tissue, and that the patient, on coming round from the anæsthetic, the parts in the hand supplied by the median were found to be devoid of sensation. Mr. Robson had made arrangements to graft the sciatic nerve of a rabbit into the gap of the median nerve, but fortunately Mr. Ward kindly allowed him to arrange his operations at the same time that he was amputating a thigh, and to utilise the posterior tibial nerve, which was taken straight from the amputated leg into the prepared forearm, the transfer from one theatre to another being made in warm carbolic solutions. Two inches and a half of nerve were used, the ends being attached to the proximal and distal portions to the median with a fine catgut suture, without the slightest tension, either on the stitches or on the nerve. The wound was well washed out with perchloride of mercury lotion and carefully sutured. Healing occurred by the first intention. The grafting was performed forty-eight hours after the tumour had been removed; thirty-six hours after the nerve had been grafted, the sensation returned in the parts supplied by the median, so that the touch of a pencil could be localised. Day by day the sensation returned, and at the end of five weeks the slightest touch could be localised.

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British Gynæcological Society (Dr. Macan, president). **A Broad Ligament Cyst.**—Dr. Edis showed this specimen, which he said was of interest, as it proved the difficulty of diagnosis in some cases. The patient was a single woman, æt. twenty-seven, who said that the catamenia had been regular, though somewhat scanty, and the last period had ceased about ten days before admission. Four months before she had noticed a small hard lump in the middle of the abdomen, which remained the same size for two months and then suddenly increased in size and moved towards the right side. She was seen in consultation by several medical men, and it was thought generally that it was a fibro-cystic tumour of the uterus. *Per vaginam* the cervix was small and pushed back into the hollow of the sacrum. The uterine sound passed about an inch and a half into the uterine cavity. The tumour extended about two inches above the umbilicus, and was about the size of a small child's head. There was an indistinct feeling of fluctuation. She was admitted into the hospital for women and examined very carefully. There was no symptom of pregnancy. As it had undergone development during the preceding month it was decided to open the abdomen and see what it was. When exposed the tumour looked like a fibro-cystic tumour of the uterus. He managed to drag the tumour out, and then made a puncture, letting out a lot of greenish-yellow grumous material. The base of the tumour was embodied in the broad ligament, and attached to the right of the uterus five or six inches long. There was nothing to make a pedicle of, and having divided away as much of the adherents as he could, removed it in the ordinary way.—Dr. Bantock said he did not clearly understand how Dr. Edis treated the pedicle. He never saw a broad ligament cyst that could be treated in the manner described.—Dr. Edis said, in reply, he had listened with the stethoscope, and examined the tumour very carefully by pressure. As regarded the pedicle, he said there was no distinct pedicle, but it seemed as if it were a layer from the uterine muscular tissue. He had thought it more prudent to perforate and divide in separate operations.—The President (Dr. Macan) then delivered his inaugural address, in the course of which he said he appreciated the honour they had done him in making him president: it was also an intimation that they appreciated the efforts that had been made to render Dublin a centre for obstetrical teaching.

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Royal Medical and Chirurgical Society. **Actinomycosis Hominis.**—A demonstration was given to the members of the Royal Medical and Chirurgical Society, when the subject of the actinomycosis hominis was introduced by Dr. D. Powell and Messrs. Godlee and H. Taylor. The case on which the paper was founded was that of a boy, æt. nine, whose family history was tuberculous, and who had been ill for four months with obscure symptoms of hectic, slight cough, and swelling on the right side of the chest. Over the lower two-thirds of the chest on this side complete dulness existed; the heart was displaced, and a basic bruit could be distinguished. There was no empyema, but on opening one of the fluctuating painful swellings there escaped a mass of degenerated tissue densely packed with the ray fungus. Numerous specimens,

stained and unstained, were shown, and it was shown that the two varieties hitherto supposed to be distinct were really one and the same. The clinical history of the disease was described, and its pathology in men and animals discussed, and also the position of the fungus amongst the organisms producing parasitic affections.—Dr. JOHN HARLEY was much impressed with the importance of the demonstration given to the Society, and especially with the evidence which showed how readily the growth be recognised even in unprepared specimens. He had brought forward a case some time previously which agreed in all essentials with Dr. Powell's except that the presence of the fungus could not be positively affirmed. He suggested that the growth might possibly be an effect rather than a cause, the germ being secondary to tissue disease; and he adduced examples from the vegetable kingdom in support of such a theory.—Mr. EVE narrated the case of a stableman, æt. sixty, who came under treatment for a hepatic swelling, from which much soft granulation tissue was evacuated. Ascites subsequently caused death, and at the *post-mortem* examination actinomycosis of the liver was found, though inoculation experiments with the tissue were successful.—Dr. T. D. ACLAND referred to the difficulty experienced in staining the club formations of the fungus when it occurs in man, notwithstanding the case with which any method of staining succeeded in cattle. Dr. MARKHAM SKERRITT described a case under his care in 1886, the patient being a house decorator, æt. twenty-eight, with a tuberculous family history. The disease originated in the lung and spread by migration to the liver. Dr. Skerritt considered the disease identical with that infecting cattle, and that it was much more common than was generally supposed.—Sir DYCE DUCKWORTH mentioned a case of actinomycosis of the skin, which Mr. Eve said was shown, by its subsequent history, to have been lymphosarcoma. Dr. POWELL and Mr. GODLEE having replied, Prof. Crookshank said he thought that staining of Dr. Harley's specimens in the fresh state would have revealed the clubs. In Dr. Skerritt's case they were easily found on careful re-examination. They did not stain well in man, though when inoculated in the calf they came out very clearly.—Dr. CROOKSHANK gave a full demonstration of the microscopical character of the fungus.

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MEDICAL SOCIETY OF LONDON. **Epilepsy with Intellectual Aura.**—At a meeting of the above Society, Dr. Edmund Owen in the chair, in the absence of Sir William MacCormac, Dr. HUGHLINGS JACKSON and Dr. BEEVOR read the notes of a curious and rare case of epilepsy with "intellectual" aura, which was associated with a tumour in the temporo-sphenoidal lobe of the brain. The patient was a cook, æt fifty-three, and had suffered from fits for thirteen months previously. She was admitted into the Hospital for Epilepsy and Paralysis on November 5th, and remained there until her death on the 31st December. The fits usually began with tremors in the right hand and arm, which were weaker than their fellows on the opposite side. She then used to see a "little black woman always busily engaged in the kitchen," a phenomenon known as the intellectual aura, and experienced a horribly nauseous smell, and then her eyes would become fixed for some minutes, but she did not lose consciousness, although she often passed her urine during the attacks. She suffered very little from headache, but gradually lapsed into a condition of dementia. Shortly before her death she developed double optic neuritis. This is the first case on record in which this perception of a smell has been traced on the post-mortem to disease of the temporo-sphenoidal lobe. The results of clinical observation in this case coincide with those experimentally obtained by Dr. Ferrier.—Dr. JACKSON pointed out that although there was a subjective derangement of the sense of swell, there was no loss of that sense; a fact which was nevertheless of great importance from a diagnostic point of view.—Dr. BEEVOR gave the details of the autopsy when a tumour the size of a small orange was found imbedded in the white matter of that lobe behind the level of the uncinate convolution.

Dr. FERRIER alluded to the peculiarly interesting nature of the case, and its rarity. In the one or two cases of epilepsy with olfactory aura in which a post-mortem examination had been obtained, the results had favoured the supposition that the olfactory was situated in that lobe, though none of them as clearly as in the case before them. He mentioned several cases in which the same symptoms had been observed.

Dr. HUGHES BENNETT mentioned that in several cases which he had observed even when there was no anosmia the sense had always diminished in intensity after the exaggerated sensations, and the same remark applied to aberrations of other senses.

Dr. WILLIAM ANDERSON mentioned a very similar case in a schoolmaster who ultimately died, and in whom a tumour was found in the same situation.

Surgical Intervention in Acute Obstruction.—Dr. B. W. RICHARDSON then read a paper raising the question as to the proper moment for surgical intervention in case of acute obstruction of the intestines. After narrating an illustrative case, he summarised the object of his paper as follows:—(1) That in all cases of obstruction, efforts to relieve by milder methods, purgatives, enemata, massage, etc., might be carried on until tne appearance of stercoraceous vomiting; (2) that as soon as this symptom was perceived there should be no hesitation in opening the abdomen; (3) that obscurity of diagnosis was no bar to operation in the presence of fæcal vomit: (4) that clinical experience showed that there was very little chance of recovery once this symptom had set in; (5) that fæcal vomiting was to be regarded as something much more serious than obstruction.

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GLASGOW SOUTHERN MEDICAL SOCIETY, Thursday, January 24th, 1889 (John Glaister, M.D., in the chair). **The Superficial Injuries of the Eyeball.**—Dr. A. MAITLAND RAMSAY read a paper on injuries affecting the conjunctiva and cornea produced by (1) foreign bodies, (2) "fires," (3) abrasions and uncomplicated wounds of the cornea, (4) burns and scalds and (5) gunpowder accidents. Practical hints were given regarding points of diagnosis and treatment. In reference to the transplantation of a clear cornea from the rabbit in cases of leucoma, Dr. Ramsay remarked that such an operation, no matter how much it advertised the name of the operator, was invariably calculated to end in disappointment to the patient, for even in the few cases when success had been claimed for it, the improvement had been very slight. Some discussion took place regarding the healing of the corneal wound. Dr. Dalziel held that the cells producing the cicatrix were not the ordinary white blood corpuscles but fixed corneal corpuscles, the tissue formed not being white fibrous tissue but corneal tissue with the fibres irregularly arranged. The paper was illustrated by means of diagrams and sections of the cornea shown by the microscope.

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MIDLAND MEDICAL SOCIETY (Arthur Foxwell, M.B., in the chair). **Natiform Knee.**—Dr. SUCKLING showed a child, æt. eighteen months, with a well-formed natiform knee. The mother had two children born dead; this was the third. A few months after birth the child was ill and had suffles, but no rash. At the present time the skull was of the hot cross bun type, the complexion was sallow and earthy, the lower epiphytes of the radius on each side were enlarged and the ribs nodulated. Dr. Suckling considered the natiform skull in this case, which was so marked, to be rare in infantile syphilis, but considered that when present it was pathognomic of the disease.

Horny Growths from the Skin.—Dr. HASLAM showed two horny growths from a patient, æt. fifty-two. One grew from about two inches above the upper border of the sternum; this the patient had been in the habit of cutting from time to time, when it got in the way of her dress. It was first noticed nine months ago. Both were extremely dense, and about three-quarters of an inch in length.

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NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY (H. Handford, M.D., in the chair). **Rupture of the Popliteal Artery: Successful Transfusion.**—Dr. ANDERSON described a case of incomplete rupture of the popliteal artery, in which transfusion had been successfully performed. The patient was a boy, æt. fifteen, who had his leg crushed between the trams, and had not been able to move his leg from that time. Soon after his admission, an incision was made over the fluctuating part of the swelling, and a drainage tube put in. Some turbid serum and dark clot escaped, but no pus. A week afterwards furious arterial bleeding occurred from the wound, and the boy became blanch, cold, and pulseless. Restoratives were administered, and next morning an incision was made, and the popliteal artery was found partially ruptured just at the origin of the superior branch. Both ends of the vessel were ligatured. The vein was intact; very little blood was lost, but the boy passed into an alarming state, with the same symptoms as on the previous day. Eight ounces of the same solution (two grains of chloride of sodium to the ounce of warm water) was then injected into the median basilic vein of the other arm with striking benefit. The patient rapidly rallied from the operation, and the wound healed without further accident.

Intrathoracic Pressure.—Dr. C. H. CATTLE exhibited a man, æt. forty-seven, with symptoms due to intrathoracic pressure, supposed to be due to an aneurysm springing from the concavity of the aortic arch. Of this, however, there were no external signs beyond slight chillness and pulsation in the first intercostal space near the left border of the sternum, and accentuation of the second sound in the same situation. He suffered from dyspnœa on exertion, accompanied by

stridulous breathing and from attacks of hoarse paroxysmal cough. The breath sounds over the left chest were naturally futile. These symptoms could be accounted for by pressure on the trachea left bronchus, and left recurrent laryngeal nerve.

Semi-confluent Small-pox.—Dr. BOOTBRYER read notes of a case of semi-confluent small-pox in a woman seven months pregnant, who was subsequently delivered of a perfectly healthy child at full term. The woman had been exposed to infection only on the thirteenth or fourteenth day previous to onset.

Poisoning by Citrate of Caffeine.—M. GERATTY said he had attended a lady who, suffering from migraine, had taken a desertspoonful (equal to 200 grains) of pure citrate of caffeine in mistake for the granular effervescent form of the drug. Seeing her after the accident, she only complained of the nauseating taste. M. Geratty induced her to eat a little porridge. This act was immediately followed by nausea and faintness, and within a quarter of an hour after taking the poison, there was grave depression with extreme pallor semi-unconsciousness, and complete muscular relaxation, pulse slow, soft, and readily compressible, restoration slow and sighing. An early emetic ($\frac{1}{12}$ grain apomorphine) was given, and acted speedily and completely. Small quantities of brandy, warmth, and the recumbent position, were ordered. A well-marked rigor was observed about an hour from the first taking of the poison. Consciousness was completely recovered within an hour and a half. Faintness, nausea, and other symptoms, gradually passed off during the day.

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SUFFOLK DISTRICT MEDICAL SOCIETY, UNITED STATES. **Two Cases of Laparotomy for Extra-uterine Pregnancy.**—DR. M. H. RICHARDSON reported these cases. *Case 1.*—Tubal pregnancy. Rupture during the third week and hæmorrhage into the abdominal cavity. Laparotomy. Recovery. This case illustrates the difficulty often met with of making a diagnosis in certain obscure affections of the abdominal cavity, as well as the advantage in such cases of early operative measures.

Mrs. P——, æt. thirty-seven, was in good general health. No catamenial disturbances. Married when seventeen years old. Had a miscarriage at the sixth month about a year after marriage, and since then has never been pregnant until present time. Last flow three weeks ago. On Sunday, July 1st, having been in usual good health, she was seized suddenly in the night with severe pain in lower abdomen. Some relief the next day and then a return of pain with feeling of faintness, nausea and vomiting. Bowels moved three days before. On entering the hospital she had an expression of anxiety. Temperature 97°; pulse 80 and weak. Abdomen not disturbed. Some dulness on percussion in right iliac region, but no resisting tumour to be felt. On vaginal examination tenderness to right of uterus with an indistinct tumour close to uterus. The diagnosis was considered doubtful, although hæmorrhage from some unknown cause was considered probable and an operation was commenced. Incision was made in the right semilunaris. On opening into the abdominal cavity there was a spurt of arterial blood, so profuse that it was suggested that I had cut an abdominal aneurysm, but clots soon followed. On examination the right Fallopian tube was found with an enlargement the size of a large olive, in which there was a rent admitting the finger-tip near the ovarian extremity, through which the blood was rapidly flowing. The tube with its contents and the ovary were easily brought up and Tait's knot applied, after which the whole was removed with the actual cautery. The wound was then closed and dressings applied. The patient made a rapid recovery and was discharged well, August 8th. This was a case of ruptured tubal pregnancy. She would have died of hæmorrhage in a short time if nothing had been done.

Case 2.—Extra-uterine pregnancy; death of fœtus at about the sixth month; laparotomy at tenth month; recovery. Mrs. B——, æt. twenty-six, had always been well. Married nine years and had never before been pregnant. About Sept. 1st, 1887, she began to flow every day. About October 12th she began to have nausea and vomiting which was persistent and severe. Since there have been monthly disturbances with "quite a show most of the time." Felt motion about fifth month. After August 1st, movements continued two months and then stopped. Twice she was apparently going to be confined but nothing came away. There was a large tumour of the abdomen, fluctuating and symmetrical. Vaginal examination showed that the uterus was not enlarged. June 22nd, 1888, she was operated upon at the Massachusetts General Hospital. He made an incision in the linea alba, through which he came down upon a vascular tumour with an apparent muscular wall and apparently everywhere adherent. An incision was made into the mass until he came upon a cyst, in which he could unmistakably feel the parts of a large fœtus. The cavity of the tumour contained a large quantity of a chocolate coloured fluid. The placenta was found to be placed with its centre opposite the bifurcation of the abdominal aorta, and was everywhere adherent to the intestines. It was soft and friable and a large portion of it was removed. Drainage was secured through the posterior cul-de-sac into the vagina. The patient made a good recovery.

DR. J. W. ELLIOTT: In this class of cases the mortality is high because there is danger of septic infection. The patient is usually infected before the operation is done. I would like to ask what was the final result in the second case?

DR. RICHARDSON: There was a very small sinus at the end of the abdominal wound. The vaginal tube was left in a few days. There was constant irrigation. The temperature immediately fell, and remained a degree or two below normal.

DR. S. N. NELSON asked how much, if any, of the sac was removed?

DR. RICHARDSON: None of the sac was removed, and only about two-third or one-half of the placenta was removed. Any further attempt at removal would have been bad practice. He would like to ask Dr. Elliott if he means auto-infection when the fœtus is dead.

DR. ELLIOTT: There are classes; (a) when the fœtus dries up and becomes stone, when generally there is no reason to interefere; (b) when the fœtus becomes macerated. In this class I do not know what *starts* this course, but infection comes and death by septicæmia. They are favourable if the sac can be opened without opening the general peritoneal cavity.

DR. JOHN HOMANS: The point of these cases is, early recognition, then operate, and the high mortality would be lessened. It is doubtful if there is a true abdominal pregnancy. They are either tubal, tubo-ovarian, or tubo-uterine.

DR. NELSON said that he had seen a case rather recently that was somewhat similar to Dr. Richardson's case 1. The patient was about thirty-five years old and the mother of two children. She had not been pregnant for seven years, since when menstruation had been irregular. She suffered from indefinite abdominal pains with nausea and sinking at the stomach. There was a slight uterine flow, which for the most part confined her to bed for four weeks prior to death. The breasts were soft and flaccid, the abdomen slightly tender on pressure, the uterus somewhat enlarged and slightly retroverted, but easily movable. No enlargement to be felt about the uterus by very careful examination, and extra-uterine fœtation was dismissed from the discussion. She seemed to improve gradually until, the night before death, she was seized with the most excruciating pains, resulting in collapse. When seen she was *in extremis*. The autopsy showed the abdomen filled with clotted blood, which had escaped from a ruptured sac of extra-uterine fœtation in the right iliac region. This, on dissection and removal, was found to have originated in the fimbriated extremity of the right Fallopian tube. The sac was about 2½ inches in diameter and contained a fœtus about four inches long.

DR. RICHARDSON, in closing the discussion, said that Tait has reported thirty-five cases of operation for extra-uterine pregnancy, with two deaths and a number of viable children. In an acute abdominal case, when the woman is in a serious state of collapse, with low temperature, there is probably hæmorrhage which requires interference; with a high temperature, there is probably perforation, and again interference is necessary. Do not delay at all.

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OBSTETRICAL SOCIETY OF PHILADELPHIA. **Tubal Disease a Primary Cause of Intestinal Obstruction.**—DR. JOSEPH PRICE read a paper on the above. In reporting cases he had repeatedly called attention to the frequency of adhesions occurring between the uterine appendages and some part of the intestines, and his present purpose was to emphasise the importance of recognising the danger of obstruction of the intestine arising from inflammatory conditions of the pelvic viscera. In the cases operated on the past year, in more than 15 per cent. there were noted "dense, firm adhesions" between the intestines and uterus and appendages, malignant cases not included. In every case, with one single exception, the inflammatory conditions causing the adhesions apparently originated in the uterine appendages. First, as to form or kind of obstruction likely to occur. The inflamed serous surface of the diseased tube or ovary, coming in contact with a loop of intestine, or an edge of omentum, provokes inflammation there, and with characteristic promptitude these surfaces cohere. If the process is not severe and of slight duration, these adhesions may disappear as promptly as they occurred, by the enormous absorptive power of the peritoneum, hastened by the mild influence of the peristalsis of the bowels. If, however, the inflammation is severe or assumes a chronic condition, these adhesions gain in extent and strength and give rise to all the variety of conditions classified by Treves as "strangulation by bands." In most cases where these adhesions occur there is a history of constipation. It is probably due as much to the pain caused by defecation as to interference by the condition. Again, the pain is often

so great as to mislead the physician into thinking that a more virulent inflammation exists than really does. But the pain is not always proportionate to the amount of mischief. I have seen cases in which a mere omental adhesion has caused most agonising pain. For instance, I recently saw a case in consultation, a woman who had had the appendages removed for backache some time before, and who suffered excruciating pain, especially on defecation. In this case the only lesion found was the omentum firmly adherent to the original incision. The omentum here was much elongated, and the transversed colon was dragged below the level of the umbilicus. In like manner I have seen the omentum adherent over the entire pelvis, dragging the transverse colon so out of place that a twist or kink of the bowel could be very easily formed. It is not at all rare to find the vermiform appendix glued fast to the uterine appendages, while almost any loop of the small intestines may become adherent to the inflamed pelvic viscera. As I have said, these adhesions vary in extent and density from those that will tear like wet tissue paper to those so well organised that it requires the scissors to release them, and it is not rare in pus cases for the bowel to be almost gangrenous about these points of adhesion and, in fact, to tear through. That adhesions do not cause complete occlusion at the time of their formation oftener than they appear to is no reason for regarding them lightly, for Mr. Treves tells us in the series of cases he studied that the average duration of the interval between the causation and the obstruction was three years; the shortest period being five weeks and the longest twenty-one years. In view of these general considerations it is hardly necessary to insist upon the release of the intestines wherever and to whatsoever extent adhesions exist. For if the surgeon leaves adhesions when he closes the abdomen, he leaves a probable cause of future serious trouble.

DR. WILLIAM GOODELL said that his experience in ovariotomy led him to say that it is a mistake to postpone the opening of the bowels to a late period. He used to follow the old plan of not giving a cathartic until the eighth day, but he was confident that he had had death result from intestinal kinks, from adhesions, making it impossible for the bowels to be moved. He now gave an aperient or an enema on the fourth day, and earlier if any symptoms such as vomiting and tympanites, present themselves.

DR. B. F. BAER said that once he had kept the bowels confined after laparotomy, but now he had them moved on the second or third day, rarely as late as the fourth day. Allowing a pint of warm water to flow into the rectum facilitates the passage of flatus and fæces. He had a case fours years ago in which very serious collapse occurred at the end of the second day. Stercoraceous vomiting set in and large quantities of flatus were passed by the mouth, but none by the anus. These symptoms were thought to be due to obstruction, and reopening was considered, but not done. The patient recovered, although she did not pass flatus for five days. Should such a case occur again he would open the wound and would have the endorsement of most operators for so doing. Large doses of salines are advised in such cases, but he wondered if there was not some danger of rupture of the bowel in these cases of adhesion after serious operations, and he related a case. Dr. Price had referred to two cases where he reopened the abdomen for pain, and found the omentum adherent to the line of incision. He knew of no better way to prevent this accident than the early use of laxatives.

Fixed Uteri.—DR. WM. L. TAYLOR read a paper on fixed uteri. In looking over his case book he found the remark, "uterus fixed," so often noted, so often underscored, as much as to say "here again," that he fain would ask how many of these cases were, in their inception, recognized as cases of peritoneal inflammation? In a number the note is made, "patient had attack of inflammation of bladder." "Inflammation of bowels" has been of alarming frequency, whilst "congestion of the liver" makes him wonder at the special degree of sensibility of that organ in women. In a series of cases where the lymph deposit seemed to be the most diffused, a positive history of an active and acute inflammatory trouble could not be obtained. There was only the history of a continued abdominal pain and tenderness, dating from an abortion, from heavy lifting, seldom from normal labours, and presumably never from gonorrhœal infection; seldom—I might say never—have I had perfect success in my efforts to trace the cause to this infection. The history of the husbands, as to the existence of a gonorrhœa or gleet, at the time of commencement of a pelvic trouble, is, in the vast majority of cases, worse than uncertain. In several of the subacute cases the only ascribable cause appeared to be indirectly, if not directly, the effort to prevent conception. Freedom from the possibility of, at least, paternal cares, leads to an amiable weakness, and coition follows coition in quicker succession than the law of conservatism would recognise, and, plus the menstrual congestions, which now even anticipate, without the restful periods of pregnancy and lactation, congestion and inflammation of the peri-uterine tissues follow. That this is as immediately the cause of the fixed uteri, the thickened and enlarged ligaments and tubes, and tender ovaries, as is gonorrhœal infection, even in prostitutes, I am inclined to believe. Where the deposits of lymph were more localised or larger in quantity, seeming as if it had been poured out quickly, and had by gravity centred itself around the uterus, there were histories of acute, well marked attacks of cellulitis or peritonitis. The causes were difficult labours with badly lacerated cervices, these lacerations extending through into the cellular tissue; and also criminal abortions. In these cases, how often traumatism and how often septic poisoning was the exciting cause it is impossible to say. Catching cold while menstruating, falls, and various other accidental causes were among the number. The average physician, as soon as the patient is up out of bed, shakes himself by the hand and says, "I have cured my patient." But he hasn't! There is still the important sequel to deal with, the lymph deposits. In fully three-fourths of all the cases the body of the uterus has become fixed in retroflexion, even in multipara. Just as soon as the uterus feels the stimulus of congestion or inflammation of surrounding tissue, it becomes turgid and heavy, and sinks decidedly lower in the pelvis until the cervix is near the vulvar orifice, and following the curve of Carus, the fundus is retro-displaced. Here it is, as it were, frozen in, fixed immovably. All around it is a mass of inflammatory lymph, becoming more dense and resisting as organisation advances. In the centre of this the sound probably indicates the uterine body with a measurement of 3½ inches. The cavity is tender and the cervix softened, congested with venous blood. Now this deposit varies greatly in quantity as the inflammation has been, by judicious treatment or by nature alone, limited or allowed to involve a great extent of peritoneal surface. The possibility of determining the amount of lymph deposit and the degree of fixation by bi-manual examination seems to me to be one of the few certainties in gynæcological practice. A uterus which is low in the pelvis and which cannot be raised to the normal line, and a fundus which is retroflexed and cannot be reposited, with the other evidences, bi-manually, of thickening and deposit, cannot but point to the certainty of previous inflammation. A sterile uterus and a fixed uterus seem to be almost synonymous.

The need of shortening attacks of pelvic peritonitis, aborting them if possible, can only be appreciated by those called upon frequently to treat the sequelæ.

If these are thoroughly treated the amount of lymph thrown out is small and probably will be absorbed almost as rapidly as it was thrown out. But we meet a case which was treated by "the other doctor around the corner," and the uterus and its appendages are imbedded and immovable. Now what are we to do? The great object is to get rid of as much of this effused matter as we possibly can. The older and more thoroughly organised this becomes the less chance there is of rapid and complete absorption. So the normal is, commence early. It is going to do one of three things: undergo absorption, break down and form pelvic abscess or become organised, acquiring an adventitious circulation. In a case of recent or comparatively recent deposit he commences treatment by correcting the digestive tract, getting the stomach, liver and bowels in better condition and surface circulation is stimulated by warm baths and frictions. He then gives mercuric chloride, with iodide, commencing with small doses frequently repeated and gradually increasing the dose and lengthening the time. Locally he relies upon the abdomino-vaginal galvanic current and gentle or more decided uterine massage, as there is great or little tenderness. This uterine massage he prefers in cases of long standing, where the tenderness has disappeared, but still used carefully where there is tenderness, he finds it beneficial. Every other day, or twice a week, make steady pressure upon the fundus of the uterus with the index finger of the left hand in the rectum and upon the cervix and body of the uterus with the right index finger in the vagina. This pressure is kept up for two or three minutes, gradually trying to force the body upwards and forwards. Then efforts at lateral movement for the same length of time. This massage is followed with the continued galvanic current, using the abdomino-vaginal method. For the breaking down of pelvic lymph he has not used electro-puncture, preferring the slower and as certain absorption by the stimulation of pelvic circulation. Where there is tenderness he uses the positive pole in the vagina and the negative over the abdomen for the first three or four applications and it is marvellous how rapidly this tenderness disappears. He then reverses the poles, using the negative with a ball or small crescent-shaped electrode in the vagina. These *séances*, including the massage, last for about fifteen or twenty minutes. The strength of current averages about 25 to 30 milliampéres. After this is over he frequently packs the fornix with wool, introducing a small ring pessary to kept the wool as much as possible in position. After he gains a certain amount of mobility he introduces a Smith-Hodge pessary, small at first, increasing to a more suitable size as the uterus rises to the normal line. Tincture of iodine to the fundus of the vagina.

HOSPITAL REPORTS.

ROYAL ALBERT EDWARD INFIRMARY, WIGAN.

UNDER THE CARE OF WILLIAM BERRY, F.R.C.S.I.

CASE I.—*Compound Depressed Fracture of the Skull—Trephining—Erysipelas—Recovery.* [For notes of this case we are indebted to Mr. R. S. HALL, M.R.C.S. Eng., L.R.C.P. Lond., Junior House Surgeon.]

Mary L——, of Wallgate, Wigan, æt. fifty, widow, admitted to Royal Albert Edward Infirmary, Wigan, August 19th, 1888. A woman of intemperate habits, who, a few months previously, was an inpatient at this hospital suffering from a wound of the scalp, which was followed by erysipelas. Patient stated that on the previous evening she had a quarrel with her landlady, who struck her on the head with a lading-can which was at hand. She was taken to a medical man in the town who, seeing the nature of the injuries, advised her to go into hospital. This she did the following day, as above stated. On admission she was perfectly conscious, spoke rationally, and walked into the wards; pupils normal. On examination of the head there was found on the left side a contused wound, about 1¾ inches in length, of an elliptical shape, situated about two inches above the ear, extending down to the bone, which lay bare at the bottom of the wound, the outer table being depressed and fractured. Patient also had a depression on the forehead, the result of an injury in the mill twenty years ago. On the evening of admission she was anæsthetised (CH Cl_3 being used) and trephined, when the fracture was found to be about an inch in length, and the inner plate much depressed. The spiculæ of bone were removed and the wound packed with iodoform and oiled lint.

August 20th: Wound dressed and looking well.

August 21st: Wound is very foul looking; no discharge. Temp. 103° F. Erysipelas commencing in the scalp. Lead and carbolic dressing applied. Given liq. ferri perch. in ʒ js. doses ter die.

August 22nd: Erysipelas extended all over scalp and face, which is very much swollen.

August 26th: She is much improved. Erysipelas subsiding; wound looks healthy, and discharging freely; tongue covered with thick white fur; bowels constipated. Purgative given.

September 1st: Erysipelas has entirely disappeared; wound covered with healthy granulations. Temperature normal. Appetite good.

From this date patient gradually regained strength, the wound slowly granulating up. One or two small spiculæ of bone came away at different times, and she was discharged on October 21st with the wound completely healed.

Remarks by Mr. Berry.—This case was interesting owing to the appearance of the depressed bone, which appeared to be external plate only. Trephining at once, however, removed the doubt, and showed depression of internal plate. Had we waited for symptoms we should probably have had inflammation of the membranes and suppuration, with an unfavourable termination. The erysipelas was certainly a serious complication, but no more severe than what we see in ordinary scalp wounds.

CASE II.—*Ovarian Tumour—Ovariotomy—Death.* [For notes of this case we are indebted to Mr. J. A. BARNARD, M.R.C.S. Eng., and L.R.C.P. Ed., Senior House Surgeon.]

Mary H——, Wigan, æt. fifty-seven, widow. Admitted Dec. 4th, 1888. *Family History:* Father died six years ago of Jaundice. Mother died eleven years ago of cancer of womb. Three sisters—two died young, one living. *Previous History:* Married at twenty-three. Has had three children—two living. Says she had had gastric fever in 1870. No other serious illness. Has lived a hard life. Menstruation has been fairly regular, and ceased ten years ago. She first noticed a swelling on left side of abdomen some nine months after the menopause, about the size of a small hen's egg. Says that she had severe pain at the commencement. It grew rapidly for three or four years, but not much lately. Measurement five years ago, thirty-six inches over umbilicus; to-day (December 5th), thirty-three and a half inches.

This case was sent into hospital by Dr. Brady, of Wigan, who had attended the patient at intervals for two years. He diagnosed ovarian dropsy. She had periodically severe pain (gastrodynia) and vomiting, which was relieved generally by hypodermics of morphia and bismuth mixture. After her admission she suffered from vomiting and pain, which was attributed to reflex action from pressure of the tumour. Ingluvin in ten-grain doses was administered. A mixture of chlorodyne and liquid ext. cascara sagrada was given for the pain and constipation. An enema was administered on the second day. Milk diet; Brand's essence of beef, and four ounces of brandy daily.

Urine: sp. gr. 1025; no albumen, but a trace of bile. Temp. 99.4° F.
December 6th: Temp., morning, 98.4° F.; night, 99.2° F.
December 7th: Temp., morning, 98° F.; night, 99° F.
December 8th: Temp., morning, 97.8° F.; night, 98.8° F.
December 9th: Temp., morning, 97.6° F. (morning of operation.)

On Sunday, December 9th, the patient was placed on the operating table, and a mixture of alcohol, ether, and chloroform, was administered. All the instruments, sponges, etc., were in carbolic lotion. An incision about two inches in length in the median line was made, and the cyst exposed. The fluid (120 ounces) was drawn off with Spencer Wells' trocar. The pedicle was clamped and transfixed, and ligatured in two halves with strong silk whipcord. There were a few troublesome adhesions which delayed the operation slightly, the hæmorrhage being also troublesome. A Keith's tube was introduced, and the wound sutured in the usual manner, and dressed with wood wool pads.

The operation occupied about one hour. The patient lived twenty-four hours, the treatment being ice by the mouth and nutrient enemata of beef tea and brandy every four hours. Suppression of urine occurred—only three ounces being drawn off with the catheter. The temperature at death was 101.4°.

Remarks by Mr. Berry.—This patient appeared to be a favourable one for operation, and the operation was performed in the ward where she was to be nursed. The operation was somewhat tedious owing to pelvic adhesions and troublesome hæmorrhage, This was checked by washing out with moderately-warm water. She appeared to rally from the operation, but became comatose early next morning from the shock and suppression of urine. Perhaps a longer stay in the hospital before operation was desirable.

Surgical Aids and Appliances.

118.—APPARATUS FOR ILLUMINATING AND EXAMINING ANATOMIC SPECIMENS.—TROUVE'S "ECECTROFRAISE."—LAILLIER'S APPARATUS.

ACCORDING to Dr. G. Beck's *Illustrirte Monatsschrift der Aerztlichen Polytechnik*, No. 1, 1889, p. 18, at a recent meeting of the Paris Odontological Society, Professor L. Serres has read a paper in

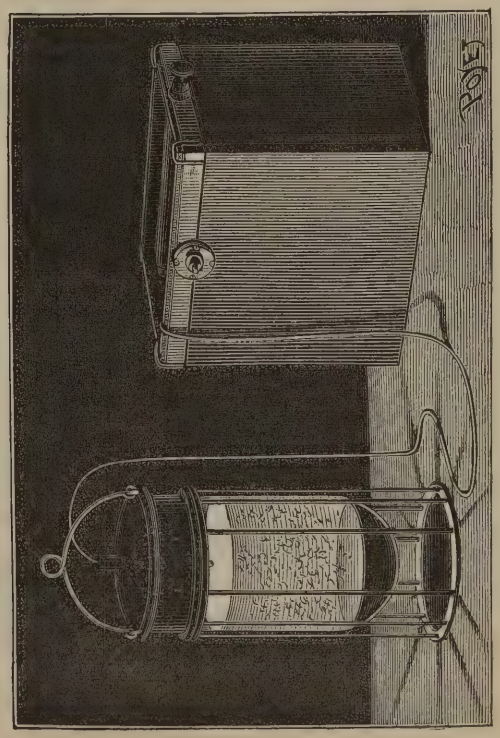

FIG. 1.

which he describes (*a*) an apparatus for illuminating and examining anatomic specimens suspended in water (fig. 1); (*b*) electromotors

adapted for use in dental practice; and (*c*) Dr. Laillier's apparatus. As is known, in former times the electromotor machines in general were constructed on the principle of an electro-magnet (*e.g.*, Froment's apparatus), but now-a-days electromotors invariably represent nothing else than dynamo machines worked by means of a constant current. Hence they work in a two-fold way: when set in rotation mechanically, they serve as a source of electricity; contrariwise, when an electrical current is allowed to pass through the induction-bobine, a mechanical force is produced, the machine becoming a motor. The machines described by Professor Serres are Trouvé's motors constructed after Gramme's system. They consist of two concentrically arranged rings, of which the outer one is immobile, and represents an inducing electro-magnet; while the mobile inner ring, connected by means of a conducting wire with the source of electricity, serves for the circulation of an induced current. The motors, as constructed by Trouvé, vary in their weight from fifteen kilogrammes to ninety grammes, and in their force from one-horse power to $\frac{3}{100}$. A motor weighing ninety grammes, and supplying $\frac{3}{100}$ horse power is said to be fully sufficient for all odontological purposes. A motor of the kind mounted with a dental drill (*fraise*), and hence bearing the name of an "*electro-fraise*" (fig. 2),

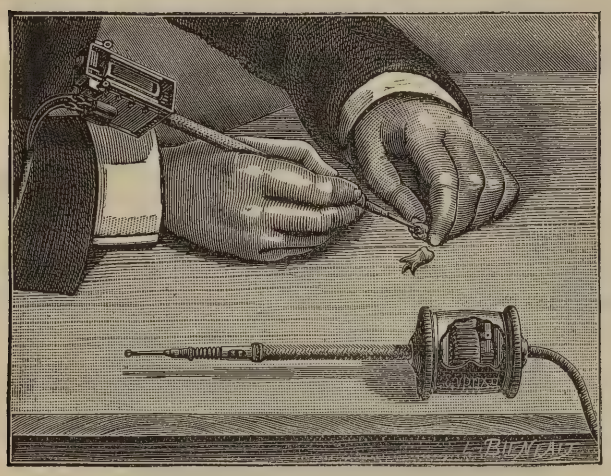

FIG. 2.

weighs not more than 150 grammes, and is said to be worked as easily as a pen or lead pencil.

Dr. Laillier's apparatus (fig. 3) is a non-electrical "*fraise*"-motor,

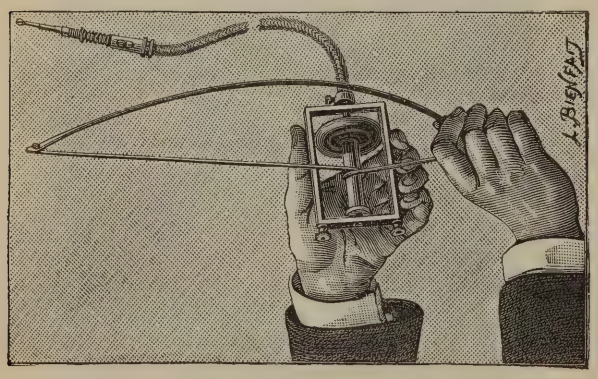

FIG. 3.

constituting a very useful dental contrivance. It consists of (*a*) a revolving axle, bearing a fly wheel, and connected with a dental drill; and (*b*) a metallic bow, furnished with a wire wound round the axle. On playing the bow to and fro, the drill can be brought into a regular motion.

Medical Miscellanea.

THE subject of our next illustration will be Arthur Edis, Esq., M.D.

* * * *

The next meeting of the American Medical Association will commence at Newport, Rhode Island, on June 25th, 1889.

* * * *

An International Congress of Physiology will be held at Basle, September 10th, 1887.

* * * *

We regret to hear that Sir Thomas Crawford's term of office will shortly expire.

* * * *

The Orthopædic and Spinal Hospital, Birmingham, will in future have the word Royal prefixed to it. The Queen has graciously given £50 to the funds and permission to use the title.

* * * *

The new buildings intended for the Medico-Chirurgical College, of Philadelphia, were opened and inaugurated with great *éclat* on January 26th, 1889.

* * * *

A beautifully illuminated address has been presented to Dr. Mapother, with an illuminated album, as a token of esteem from his professional brethren in Dublin. Deep regret was expressed at his leaving them.

* * * *

Two deaths have been recorded lately under chloroform; one in an obstetric case, and the other at the Crumpstall Workhouse, both in Manchester.

* * * *

Dr. Weir Mitchell has been appointed to a new chair, that of Diseases of the Mind and Nervous System, in the Philadelphia Polyclinic and College for Graduates in Medicine.

* * * *

The annual report of the Royal Maternity Charity states, that of 3,604 poor women who had been attended during the past year, only 11 had died, and of the children 3,521 were alive. Sir John Lubbock has consented to preside at the forthcoming triennial dinner in April next.

* * * *

We have received a new paper entitled *Medical Topics*, which has a novel feature about it—viz., the publication of a medical "black list," giving the names and addresses of persons about whom information is wanted.

* * * *

The *St. Petersburg Gazette* believes that the question of permitting ladies to practise medicine in Russia has been definitely settled in an affirmative sense, with the stipulation that ladies shall only attend on adults of their own sex and on children of both sexes.

* * * *

By the will of Dr. John Chapman, formerly a West-end practitioner, a sum of £56,000 is, after the payment of a legacy of £10,000 to his executors, to be divided between the following three charities: The British Medical Benevolent Fund, the British Home for Incurables, and the Orphan Working School.

* * * *

The Council of King's College have established a chair of Neurology, in which Professor Ferrier has been elected. It is hoped a Neurological Laboratory will be established as soon as the Royal Microscopical Society vacate their present apartments in the College.

* * * *

The third Russian Medical Congress was held at St. Petersburg on January 16th, and seven following days. It was opened with great solemnity by Professor Botkine, who said the numbers present at the first congress was 500, at the second 1000, and at the third 1500. Dr. Erissmann, Professor of Hygiene at Moscow, was elected president of the congress. There were eighteen sections, and a number of papers were read.

The following office-bearers have been elected in the Wigan Medical Society for 1889: *President*—R. F. Woodcock, Esq., M.R.C.S. Eng., and L.R.C.P. Lond. *Committee*—E. H. Monks, junior, C. E. Brady, W. C. Barnish, Nathan Hannah, and J. B. Stuart, with the ex-president and hon. sec. *Hon. Treasurer*—E. H. Monk, junior, L.R.C.P. and L.R.C.S. Edin. *Hon. Secretary*—Wm. Berry, F.R.C.S.I.

* * * *

At a meeting of the Sanitary Assurance Society is was resolved on the proposal of Dr. Rutherford, seconded by Surgeon-General Cornish, "That Dr. Farquharson, M.P., be asked to introduce the Sanitary Registration of Buildings Bill on the opening of Partiament, and to take steps to obtain as early a date as possible for its second reading; and that Sir W. Guyur Hunter, M.D., M.P., Sir Henry Roscoe, M.P., F.R.S., and Dr. Cameron, M.P., be again asked to join Dr. Farquharson in introducing the Bill; and that as soon as the Bill is printed, and in the hands of the House of Commons, the President of the Local Government Board shall be asked to receive a deputation in support of the Bill."

* * * *

The following circular has been issued, signed by several leading members of the profession, to the presidents of the branches of the British Medical Association, with a view of eliciting an expression of opinion from the members of the Association:

"It is universally admitted that the *British Medical Journal* is at present ably edited, and that, while it is a great financial success, it is a repertorium of a vast amount of valuable scientific information.

"At the same time it is believed by many members of the profession that the best interests and the honour of the Association would be greatly promoted by a change in the character of the Journal.

"An opinion has for several years been widely held that the lines on which the Journal is now conducted, which are similar to those of proprietary Journals, with anonymous articles and reviews and multifarious advertisements, are not suitable for the organ of our Association, for the sayings and doings of which our members individually are responsible.

"It is felt that the Journal should be a faithful exponent of the proceedings of the Association in all its departments, while presenting a record of contemporary professional work elsewhere; but that anything beyond this, whether articles, reviews, or annotations, should have the authors' signatures appended, as indicating the actual authority of the communications. The character of the advertisements also should be more carefully controlled than at present, and especially all announcements of secret remedies should be excluded.

"It may be objected that such a change in the Journal would involve some pecuniary loss. But our members are now so numerous that the annual subscriptions, together with income from other sources, would cover all current expenses. And it may be remarked that our individual self-respect is a matter of higher moment than flourishing finances.

"It is proposed, in the first instance, to address the Council of the Association requesting them to consider this important subject, and should it be deemed necessary, to summon a special general meeting in London. But before taking such a step it seems essential that there should be some guarantee that the proposed reform would be favourably regarded throughout the country. And we venture to ask that you will ascertain, as soon as may be, the feeling of your Branch upon the subject, and communicate the result to the Honorary Secretaries."

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16*th of the month.*

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

"TAKE YOUR MEDICINE."

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—As is only too well known, children and infants frequently refuse to take medicines, however palatable they may have been made. A great deal of trouble may be saved I find, by fixing the cheeks firmly with the finger and thumb of the left hand, whilst the spoon is inserted with the right. By this method, which I first observed practised by a young married lady recently, the first essential in the act of deglutition is provided for, *viz.*, a fixed point for the pharyngeal muscles. Ordinarily this provision is effected by closing the mouth; and there cannot, I think be any doubt, that the prevention of the natural process by the pressure of the spoon, leads, in great part to the struggle to avoid taking medicine. When the approximation of the lips is prevented by the firm forward pressure of the finger and thumb, medicine may be poured into the pharynx without fear of its being spat out, and the most refractory child will, as a rule discreetly swallow it.

The practice of nipping the nose, should I am sure, be strongly condemned, because of the risk incurred of forcing the medicine along the Eustachian tube.—I am, sir, yours faithfully,

January 29th, 1889. C. R. ILLINGWORTH, M.D.

ON GOING TO SLEEP.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Mr. Brown's comprehensive letter (PROVINCIAL MEDICAL JOURNAL, January 1st) upon "Animal Alkaloids" throws some light upon the causes of the recurrent and periodical return of a disposition to sleep, but I would respectfully submit that it does not appear to cover the whole of the inquiry. Thus, it does not explain the irresistible desire for sleep that comes over one at inconvenient times, apart from fatigue or over-exertion, and would seem to be dependent upon the condition of the cerebral circulation. I would illustrate my meaning by stating my own case. If I take up a book, be it of light or grave literature, and attempt to read it in a reclining position, *e.g.*, leaning back in my chair, I inevitably fall asleep in a short time. The same thing occurs to many persons in railway travelling. Whereas, if I resume the upright position at my study table, I may read for hours without becoming drowsy. How is this to be explained? The theory that explains sleep by a diminution of supply of blood to the brain does not, to my apprehension, meet the case.—I remain, Sir, your obedient Servant, "SLEEPY-HEAD."

London, February 10th, 1889.

"QUASI-HYDROPHOBIA."

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—It is needful to make an elucidatory remark or two relative to my contribution in last number on what might be called *Aqua-Bibitory Disease*, in which I detailed a case where the symptom which gives hydrophobia its name was absent. Such cases, it is demonstrable, occur; and while they resemble hydrophobia more or less in other characters, want this one, so that they cannot be classed under that recognised form of disease.

Two of the cases I adduced were, as I hinted, collateral, and intended to illustrate a feature of the case detailed—viz., the supervention of a serious disease upon the successful removal of some local one of less moment. This is a highly practical consideration, though no new one, for us to bear in mind in endeavouring to cure local affections, and particularly applies where these are of long continuance and inveterate. There existence is, then, often a safety-valve for the constitution and, as the cases mentioned show, may be the very condition of *life*. In the

MS. these cases were bracketed, to show they were not instanced as in any way hydrophobic. In one of them, by error, it is said the patient died "hydrophobic," when it should have been given "apoplectic." The hydrophobic character of this case might seem very inexplicable; and, therefore, I have felt necessitated to make this correction for any who may have thought the paper deserving of their attention. The police case cited was, like all else, treated as briefly as possible. I should explain that here we had together a violent nervous and, indeed, mental disorder—though in this case manifested in "thirst for blood," or suicide—and a bite from an animal. These had not been in the least connected, but the fact I notice is that they were both present, and that no other cause was offered for the anomalous disease. Hence, I think the theory of aqua-bibitory disease explains it, and that, had we exact knowledge as to this, it would have been found this man discovered *some* peculiarity as to water-drinking. He had not the aversion of hydrophobia, evidently, or he would have been regarded as a case of this disease, and his strange affection at once explained. He would then, no doubt, have been treated less as a police than as a medical case.

How is the supervention of his form of frenzy to be explained but according to my hypothesis? And here *there had been* a bite; yet it was not *hydrophobia*. Is it not likely the cause which leads to fearful results under this name would produce *some* effects where for any reason failing to lead so far? And would not such results be akin to hydrophobia? If so, we have to expect the kind of malady I have described? and, when one finds actual cases, there is no existing class of disease to which they belong. Here, however, are diseases, nevertheless.

Cardiff. CHAS. FOX.

THE DUBLIN BARRACKS.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Respecting the question of the unhealthiness of the Dublin Barracks, I beg to ask your attention to an article in the *Builder* of January 19th last by a professional architect on the condition of the stone of which it was originally built. He states that the *bad health* of the troops is due to the foul air given off by this stone, now in process of decay or degradation. It is called "*calp*," *or mudstone*, an unconsolidated species of superficial formation, probably estuarine, which is very *hygroscopic*, and has now been for years absorbing impure moisture and water, and is now slowly settling down into decay of its original constituents. If such should be the case, then a *mineralogical inspection* should be made of the walls, below and above ground, and these bored into, and the *cores* of stone examined by architects. After confirmation of the unsanitary cause, then nothing would remain but *demolition* of the building, as it could not be occupied or used for any other purpose. The writer also says that a large part of *old Dublin* on the level of the river is built of like material, which is now decaying by moisture, and becoming degraded into rubble or unformed stone. It is evident that Dublin has not yet secured the advantages of "Removal of Unhealthy Dwellings Acts," which has benefited Birmingham, Manchester, and Liverpool so much.—Yours sincerely, "POLYORCETES."

Edinburgh, February 10th, 1889.

☞ NOTICES OF DEATHS, BIRTHS, AND MARRIAGES, occurring in the families of our subscribers will be inserted, free of charge, in the *Provincial Medical Journal* if sent, duly authenticated, to offices.

Bibliographical Record.

BOOKS, PAMPHLETS, ETC., RECEIVED.

The Physician as a Naturalist. Addresses and Memoirs Bearing on the History and Progress of Medicine, Chiefly During the last Hundred Years. By W. J. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow. Glasgow: James Maclehose & Sons.

On Syphilitic Affections of the Nervous System; their Diagnosis and Treatment. By T. M'Call Anderson, M.D., Professor of Clinical Medicine in the University of Glasgow. Glasgow: James Maclean & Sons.

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The Place of Saccharin in Pharmacy, with Formulæ. By Professor Attfield, F.R.S. London: Wilson, Salamon & Co., 18, Billiter-street.

A Vindication of Saccharin: The French Reports Refuted, its Harmlessness proved and certified by the highest authorities in the world. London: Wilson, Salamon & Co.

☞ We direct attention to the two pamphlets above named. Copies may be obtained *free* from Messrs. Wilson & Co.

Pulmonary Consumption considered as a Neurosis. By Thos. J. Mays, M.D. Reprint. pp. 63.

The Electrolytic Treatment of Organic Tissues. By George H. Rohé, M.D. Reprint. p.p. 15.

Hydatid Disease in New Zealand. By R. Gordon Macdonald, L.R.C.P., etc. Reprint. pp. 19.

Reports of the Laboratory of the Royal College of Physicians, Edinburgh. Edited by J. Batty Intyre, M.D., and J. Sims Woodhead, M.D. Vol. i. Edinburgh and London: Young & Pentland.

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EXCHANGES, 1889.

AMERICAN:—
1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

BRITISH:—
15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

DUTCH:—
35. Nederlansch Tijdschrift voor Geneeskunde.

FRENCH:—
36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
42. Annales de Gynæcologie et d'Obstetrique.

GERMAN:—
43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
48. Fortschritt der Medecin.
49. Chemiker Zeitung.

ITALIAN:—
50. Lo Sperimentale.
51. Rivista Internationali di Medicina.

PORTUGUESE:—
52. A Medicina Contemporanea.

RUSSIAN:—
53. Vratch.

SPANISH:—
54. Rivista Clinica de Barcelona.

TURKEY:—
55. Revue Medico-Pharmaceutique Constantinople.

Yours very sincerely
Arthur N. Ellis.

THE

Provincial Medical Journal:

A MONTHLY REVIEW OF MEDICAL SCIENCE, LITERATURE, AND BIOGRAPHY.

VOL. VIII.] APRIL 1, 1889. [No. 88.

Our Portrait Gallery.

ARTHUR WELLESLEY EDIS, M.D. LOND., F.R.C.P.

ARTHUR WELLESLEY EDIS was born at Huntingdon in 1840, and educated at Aldenham Grammar School, Herts. After this he spent two years at the Royal Agricultural College, Cirencester, where he acquired a knowledge of Chemistry, Botany, Geology, and other kindred subjects. It was in the Veterinary Hospital here that he first developed an interest in Medicine. Having completed the curriculum, he obtained the diploma of M.R.A.C. in 1857, and after passing the M.R.C.S. and 1st M.B. of London, he studied at Vienna, Berlin, and Paris. For five years he was attached to the Hospital for Women, Soho-square, and for fifteen years has been connected with the Middlesex Hospital, first as Assistant Obstetric, and on the death of Dr. J. Hall Davis, as full Obstetric Physician.

He is now Senior Physician to the Chelsea Hospital for Women; Consulting Obstetric Physician to the City Provident Dispensary, and to the Hounslow Cottage Hospital Dispensary; late Physician to the British Lying-in Hospital. He is a Corresponding Fellow of the Gynæcological Society of Boston, U.S.A.; Fellow of the Medical Society of London; Member of the Clinical and Harveian Societies; and was last year President of the British Gynæcological Society.

Dr. Edis has largely assisted in the foundation and development of an English School of Gynæcology; his tendency leans to surgical interference in suitable cases. In his admirable presidential address to the British Gynæcological Society, he says:—"The tendency for many years past has been to advance in a surgical direction, and unquestionably much has been gained. Cases which scarce a generation ago were regarded as hopeless, over which medicine had no power, either to control the growth of tumours, or prevent a fatal issue, are now rescued from their impending fate, and restored to health and usefulness. The triumphs of abdominal surgery are still the wonder of the age. Ovariotomy alone has been the means of saving countless thousands of lives. Removal of the uterine appendages, whether in the case of bleeding myoma, or chronic incurable diseases of the ovaries or tubes, has enabled the surgeon to convert useless suffering and miserable invalids into useful members of society, able to earn their own living, or to fulfil the duties of their station with comfort and freedom from suffering. The surgical treatment of extra-uterine gestation, bold in its conception, and successful in its issue, appeals alike to the profession and the public. Shortening of the round ligaments; raising the prolapsed ovaries, and attaching them to the parietes by a plastic operation; repairing the ruptured perineum; removing the hypertrophied cervix uteri, or restoring it to its normal condition when laceration has occurred by the operation of trachelorraphy; constricting the vaginal passage by colporraphy, when it has become so lax as to cause considerable discomfort, and allow the uterus to be prolapsed even beyond the vulval orifice: all these and many other operations of a like nature may be quoted as evidence of my original statement."

Dr. Edis was not content with only being an obstetric practitioner; only last year he contested the right—and succeeded in obtaining permission—to perform ovariotomy and other similar operations at the Middlesex Hospital, the surgeons hitherto claiming these operations as theirs. Some years since Dr. Edis published a pamphlet on "Seats for Shopwomen," and directed the attention of the public to the hardships undergone by young women in being compelled to stand from 8 a.m. until 7 or 8 p.m.

His manual on "Diseases of Women" went through two large editions in a very short time. His contributions to the medical journals have been numerous, including "Lectures on Uterine Hæmorrhage," "The Influence of Obstetric Knowledge on the Mortality of Mothers in Childbed," "The Rational Treatment of Menorrhagia," "The Forceps in Modern Midwifery," etc.

Original Communications.

ON TOPICAL REMEDIES FOR DISORDERS OF THE ANUS AND RECTUM, AND IMPROVED INSTRUMENTS FOR THEIR APPLICATION.

By John Ward Cousins, M.D. Lond., F.R.C.S.,

SENIOR SURGEON TO THE ROYAL PORTSMOUTH HOSPITAL, AND TO THE PORTSMOUTH AND SOUTH HANTS EYE AND EAR INFIRMARY.

The common disorders of the anus and rectum exhibit very varying degrees of severity. Sometimes local distress, pain, and frequent bleeding necessitate surgical interference without delay; at other times, any operation appears undesirable in consequence of age or extensive visceral disease. The judicious surgeon will always select those cases which are favourable for radical cure, and in this way avoid the complications and disastrous results of bygone practice.

Now every day we meet with mild forms of these diseases, for which our patients refuse altogether to undergo surgical treatment, but they are very anxious to adopt palliative measures. Fortunately, in a large number of cases, the judicious application of topical remedies is followed by great temporary relief, and sometimes even by permanent cure.

Of course anal and rectal affections are not always mere local disorders. In many cases they are excited by general diseases and visceral obstructions, and the removal of the primary cause always demands the first attention. Respecting general treatment, great relief can often be obtained by regulating the secretions, by attention to the diet, and especially by avoiding all excesses in eating, drinking, and tobacco. Aperient and laxative remedies are frequently serviceable, but they must always be mild and unirritating in their action.

With these few remarks I shall pass to my special topic—the local treatment—and I shall briefly narrate my experience as to the best applications, and the best method of applying them.

During the act of defæcation in the healthy condition of the bowel, the blood-vessels around the orifice are distended, and slight protrusion of the mucous membrane takes place, and, whenever the muscular tension and vascular turgescence of the part are habitually prolonged and severe, the very conditions are present which promote the development of hæmorrhoidal troubles. In cases of ordinary constipation, and prior to the expulsion of hardened accumulations, some softening or lubricating agent may with great advantage be introduced into the rectum, and for this purpose I strongly recommend a smooth and creamy mixture of boracic ointment, glycerine and lanoline.[1]

In relaxed conditions of the anus and rectum, with a tendency to prolapse, prolonged efforts during evacuation distend the dilated vessels, aggravate the varicose state of the anus, and increase the local distress. Straining at stool must at all times be carefully avoided. It is a good plan to get a regular action of the bowels just before going to bed, instead of early in the morning, for then, during the repose of the night, the intumescence of the organs has time to subside. Immediately after an evacuation the anus should always be washed, and the well-soaped hand is the best instrument for the purpose. Habitual cleanliness is one of the most effective ways of preventing hæmorrhoidal disorders. The irritating secretions and mucus from the orifice of the gut are removed, and the friction tends to brace up the part and empty the distended vessels. There is no region of the body which really requires so much sanitary attention, but, even in these days of hygienic enthusiasm, it is too often the last to be cleansed.

The affection commonly styled 'piles' is in many cases nothing more than soreness and irritation of the anus, produced by daily neglect and local impurity. When the surrounding skin is healthy any ordinary soap may be selected for washing purposes. Sometimes the folds of skin around the orifice are swollen and irritable, and often external hæmorrhoids cause a great deal of irritation. In persons of a full habit a local erythema is very common, extending over the nates. The skin is red and moist, and by friction it becomes tender and excoriated. The disorder is generally easily cured by careful attention to the part every evacuation. I have used with great success well-washed soft soap made into a smooth compound with the alcoholic solution of coal tar, or the oil of Cade or eucalyptus globulus. After the lavement the part must be carefully dried with a soft towel, and dusted with a fine powder composed of carbonate of bismuth, oxide of zinc, and starch.

In cases of chronic gout, and in other constitutional derangements, an obstinate form of eczema attacks the anus and genital organs, and the tormenting itching which attends the disease causes persistent scratching and excoriations. Sometimes the skin becomes infiltrated and fissured in the direction of the normal radiating folds. This disorder cannot, of course, be treated apart from the constitutional condition with which it is associated; but the daily use of the soap I have mentioned is often followed by remarkable benefit. The drying powder may then be applied over the part, or a little of the boracic ointment gently rubbed in.

The local treatment of prolapsus ani and hæmorrhoidal disorders is a matter of daily importance. In acute inflammatory affections of the anus rest in bed should be maintained, and the patient will be much relieved by sitting two or three times a day in a hot carbolised bath.

In all cases requiring washing and irrigation, I recommend the use of a very convenient contrivance. It consists of a metal pan with a deep well in the bottom, and it is supported on short legs. The patient sits on the side of this well, so that the anus and genital organs can be completely bathed. It is especially serviceable in inflammatory disorders of the bowel, and after operations for hæmorrhoids and fistula. It is fitted with inlet and outlet pipes for continuous irrigation—a mode of treatment I adopt after all rectal and perineal operations at the Royal Portsmouth Hospital, and I hope to describe its utility in these cases on a future occasion.

Whenever internal piles come down during defæcation, they must always be carefully washed and returned. In prolapsus ani the protrusion should also be carefully pushed back directly the stool has escaped. Many of my patients, labouring under aggravated troubles of this sort, have experienced much relief by using for a few weeks a bed-pan in the horizontal position. At all times the inconveniences attending the act of defæcation may be alleviated by introducing into the bowel a lubricating agent to prevent undue straining, and to facilitate the

[1] The purified fat obtained from sheep's wool is the best basis for all ointments intended for soothing and protecting purposes.

escape of the motion, and for this purpose the antiseptic compound I have mentioned is admirably adapted. The anus should then be carefully washed, and a little stimulating ointment put into the bowel, to check excessive secretion, and to rouse the mucous follicles to more healthy activity. I often employ a remedy containing a little oxide or subchloride of mercury and a few grains of iodoform. If pruritus ani is troublesome, cocaine may also be added with much advantage.

It is necessary here to refer to a matter which generally receives too little attention. Patients should always be instructed as to the right way of applying local applications. It is of great importance that these are distributed upon the mucous surface of the bowel well within the sphincter, and the only way of obtaining this result is by the use of an ointment introducer. The simple instrument I have designed for this purpose is represented in the engraving (Fig. 1). It consists of a very smooth anal tube, a cylindrical receptacle for the ointment, and a vulcanite piston. The ointment is projected through the perforation in the anal tube by simply compressing the piston with the finger. The injector is very readily charged, and is especially adapted for self-application. The rectal injector (Fig. 2) is intended for the use of fluid remedies,

Fig. 1.

Fig. 2.

and is capable of holding three drachms. For the introduction of larger doses the anal tube can be used with a second hand-ball.

Hæmorrhage is often a very prominent symptom in many of the common disorders of the rectum. The quantity of the discharge varies a great deal in different cases. At all times the amount of blood lost at each evacuation must be carefully ascertained. Sometimes the fæces are only smeared with spots and streaks of blood, while at other times the loss is very considerable and alarming.

Whenever free bleeding has suddenly occurred, or the drain has continued for a long period unchecked, the case is not one for mere palliative treatment, but ought to pass without delay into the hands of the surgeon.

In many cases, however, of moderate severity, the daily use of local remedies will be followed by great benefit. The same diligent attention to cleanliness after an evacuation must be practised, and then an ointment containing the persulphate of iron should be carefully applied to the diseased surface. The fluid extract of witch hazel is also a very efficacious remedy. When a very powerful hæmostatic is required, the persulphate may be added to the hazeline with great advantage. I generally order two drachms of this solution, diluted with a little water, to be used regularly for two or three weeks. For all cases of hæmorrhage, rest in the horizontal position after defæcation is extremely desirable, as it tends to relieve the local congestion, and to promote the astringent action of the remedy.

One word respecting the value of anodyne applications. The distressing pain which attends the evacuation of the bowels in some diseases, and continues for hours after, often demands local palliative treatment. Many cases of pain and spasm of the orifice are greatly relieved by the topical use of cocaine; but, after many trials, I found a combination of morphine and cocaine more generally useful. The application of this compound sedative often acts like a charm, and quickly gives relief. The suffering caused by fissure of the anus and ulceration within the sphincter is rendered bearable by this remedy, and in recent cases I have sometimes found its use, combined with digital dilatation, rapidly followed by permanent cure, without any other surgical interference. It is invaluable in the treatment of stricture of the rectum, and it should be introduced into the bowel ten minutes before the use of the dilator. In chronic ulceration and malignant disease it can be freely employed as a palliative remedy; and, in fact, in all cases in which pain and hyperæsthesia are prominent symptoms.

MEDICINE IN AUSTRALIA.[1]

By T. N. Fitzgerald,

Fellow of the Royal College of Surgeons, Ireland; President of the Congress.

When, sixteen months ago, at the first medical congress ever held in the Australiasian colonies, I was chosen president-elect of the next similar gathering, I was very proud to have obtained such an honour. I received with feelings of profound gratitude the expression of confidence and regard that my fellow-workers in the noblest of all vocations were so good as to convey to me. And now as I stand before you, who have come hither from every part of Australasia, to take counsel together on matters of grave import, I feel that I have reached the crowning point of my ambition; for I need hardly say that although material success is very properly an object we may all laudably strive to win, if only we strive fairly and honourably, a still higher prize is that which is conveyed in the willing trust of a whole brotherhood. I wish, therefore, here to declare how deeply sensible I am of the honour of which I was then made the recipient, and how proud I am to occupy the place that now I fill. Let me, however, sincerely assure you that I feel conscious of considerable diffidence in having so closely to follow the late president, whose eloquent address in Adelaide won from us such enthusiastic and well-merited recognition.

And now let me offer you all a cordial welcome to Melbourne, which some of you, I dare say, behold for the first time. Our city has been called "Marvellous Melbourne," and no doubt for some reasons it deserves the title. It is very far from perfect, as we who have lived in it so long well know. To it, then, such as it is, I bid you welcome. We will endeavour to make your stay in it as agreeable as we can, so that when you leave us you may carry away not unpleasant reminiscences of your visit.

Before proceeding further, permit me to offer a few words of explanation. You are no doubt aware, before we left Adelaide, it was agreed that the congress should be convened in 1890, and this resolution would doubtless have been adhered to had not the political authorities of the day suddenly decided to hold the Centennial Exhibition

[1] Presidential Address delivered at the Second International Medical Congress, Melbourne, January, 1889.

and invite all nations. When the commissioners were debating their preliminaries a proposition was started that this would be a very favourable opportunity for holding the next session of the congress. The suggestion at first encountered serious opposition from many who are generally foremost in support of any movement that tends to the advance of medicine, and whose opinions deserved most attentive consideration. The change comtemplated was no doubt an important one, more especially as it involved a direct departure from the resolution agreed upon in Adelaide; but it was urged that, although a year's time was a very short interval between the two meetings, and allowed but a brief space to collect fresh facts and arrange material, yet the chance was too opportune to be missed. At another time the means of travelling from distant parts would not be so easy, and assistance from other sources might not be so readily attainable. Consequently it was determined, on a full vote of the profession, to alter the Adelaide programme, and to convene our gathering this year. The date being fixed, those who had opposed the alteration the most strongly very generously consented to act with the larger section, so that we have since worked together in perfect harmony in making the preliminary arrangements. I am delighted to say that the fear expressed by the opponents to the change, that the time would be too short to collect sufficient material, has not been justified by the results, and that we have experienced from all quarters a most gratifying readiness to co-operate with us in making the congress an unqualified success.

It has been asked, what are the especial advantages to be looked for from an Australian medical congress? What practical good is likely to come from the gathering together of medical men in the southern lands? Are there, it is demanded, any diseases peculiar to Australia, or affections which have not been investigated exhaustively by the highest authorities in Europe? Do the conditions of climate and the social habits of the people modify diseases? Or do certain affections, which are common to all latitudes, assume here particular characters that differentiate them from the aspect they present under other geographical circumstances?

I do not forget that on the other side of the world, and especially in those large centres of human life where the perils of existence and the factors of disease are so many and so constant, the finest intellects are continually engaged investigating in every branch and every branchlet of the compound science of medicine. They have abundant means, elaborate appliances, the fullest opportunity, and uninterrupted leisure at their command, to work out the problems which continually are spread before them. The microscope enables them to make additions every day to the sum of that division of the medical sciences which half a century ago, or even less, may said to have no existence. Histology is thus always revealing to them, and through them to the whole medical world, something new. The chemist, in like manner, is for ever throwing light upon etiology, pathology, and, especially in its larger significance, therapeutics. There are very many highly accomplished men content in their enthusiasm to spend the spring-time and early summer of their lives in the exhausting work of hospital duty; happy and well enough rewarded in their own esteem if they but do now and then, amid thousands of routine cases they have to treat, light upon some new clinical fact, or discover some hitherto unrecognised action of a drug. Surely, asks the pessimist querist, your local medical societies suffice for the report of unusual cases, and the exhibition of anatomical peculiarities or rare distortions; why then, with puny strength, endeavour to emulate the mighty efforts of the northern hemisphere, having in remembrance that some of their endeavours have not been crowned with perfect success?

We do not, we cannot hope to bear comparison with the great medical gatherings of the congresses or associations in Europe. But with all becoming humility, and with the admission that we cannot hope for some years successfully to rival our brethren in the healing craft in the old world, I have yet to say that we have here 2000 medical men, educated and trained in the same way, and qualified up to the same limits, as are those at home. We have amongst us representatives of nearly every medical school or college in Europe, who have opportunities of studying and treating disease and of maturing their knowledge, both in private and in hospital practice. Then again, as we all well know, in many medical and surgical affections, the practice adopted by some of the leading men in the different colonies is decidedly at variance (whether rightly or wrongly) with the views held by home authorities. Surely, therefore, we are able to add something to the sum of that knowledge which we have as a kind of joint stock, and to the enlargement of which it should be both our duty and pleasure to contribute.

To reply further, it should be remembered that though the habits and conditions under which we live bear a social similitude, yet they are by no means identical with those existing in Europe. In the older civilisations and in America, we see the working population of the cities crowded together in a manner utterly unknown to us. The facts lately published by the Special Sanitary Commissioners of the *Lancet*, on the sweating system among tailors in Liverpool and Manchester, must be an incomprehensible revelation to the native-born of these colonies. In the rural districts of the old country, the labourers are ill and insufficiently fed, ill-clothed, over-worked, and everywhere subjected to the extremes of cold or heat in their seasons. The wealthy, for the most part, especially the females, are fashion-worshippers, self-indulgent, and almost entirely unemployed, the more active alone finding vent for their energies in eleemosynary efforts.

With us, on the other hand, the cities are widespread (too much so if anything), each man, even to the poorest, lives in his own house, animal food is plentiful and cheap, the hours of labour are short, and summer and winter are much the same, except that in their seasons occasionally the hot days are hotter and the cold days are colder. Such weather as is implied by the terms zero, blizzard, continuous rain, ice storms, etc., we are acquainted with only through newspaper description. On certain days it is true the heat is apt to be oppressive, specially to the inactive, and trying to the aged and sick, yet it can never be said to be unbearable, or inimical to life. Then again, the difficulty and often impossibility of ensuring constant domestic service, compel even the most opulent of this community to do for themselves what they would be glad to pay others to do for them, and thus in the performance of work, our gentlewomen procure for themselves an amount of bodily exercise, which, although unsought and sometimes unwelcome, is a distinct benefit to them, and there can be no question that it saves them from many ills to which they would otherwise be subjected. Thus, then, in this continent we find men of all classes living under the most favourable circumstances. Climate nearly all that can be

wished for, healthy inheritance, both mentally and physically, ample space for every one, and well requited industry prevailing everywhere.

Surely with these happy surroundings, which exist, as far as I am aware, to such an extent in no other place, we have a spacious field, especially our own property, for investigating disease as it occurs uninfluenced by the many causes which excite and maintain it at home. For instance, we have long been taught, rightly or wrongly, that scrofula and tubercle are affected by squalor and dirt; that phthisis is favoured by close vitiated atmosphere and cold night air. These causes are present but to a slight extent with us, yet occasionally we find scrofulous impregnations excessively virulent; while phthisis is as common with us as it in England, and decidedly more so than in Canada and Scotland.

Again, here in this land, certain acquired constitutional diseases in the tertiary ulcerative forms, are comparatively mild affections, and seldom present that grave character which is such a continual source of anxiety to the European practitioner. As a corollary to the limited intensity of such affections, we would expect to find skin diseases rare and mild in character. Is this the case? We are a busy people, yet melancholia is a common form of insanity to be met with in our asylums. Then, again, do we enjoy an immunity from the nervous diseases so frequently to be met with in the great manufacturing and mercantile centres of Great Britain? And if we do not, what is the explanation? It is not difficult to discover, therefore, that the field for observation is here very wide, and that in whatever direction of special knowledge we may look there is an abundance of matter to interest and occupy us, without at all travelling over trodden paths, or turning over ground which has yielded up all its nutrient elements to the cultivator.

There are a number of similar questions we can ask ourselves, and our peculiarly happy circumstances will perhaps allow us, by a process of elimination, to throw a light on obscurities, and to regard causes from a point of view from which, without these advantages, they cannot be seen by the profession at home. So, too, should we ask ourselves, cannot advantage be taken of our almost unlimited space to bring under control such distressing social maladies as habitual drunkenness? Then, again, is not this the opportunity to come to some agreement as to where a suitable mountain residence can be found for the delicate and consumptive? Whether a better treatment may not be advised in counselling protracted change—summering in New Zealand or Tasmania, wintering in Queensland, and spending the intermediate time in one of the other colonies?—for we have all climates with us.

To arrive at any definite conclusion on these and many other matters, a consensus of opinion is required, and this can only be obtained by such a gathering of the profession as I see before me now. If our environments are healthful, and certainly they should be so, the young manhood of this country, who, for the past few years only, has become an influence in the councils, should present a type of the highest class. His birth-right, the political freedom which has been handed down by his fathers, his inheritance, the home life, the decorum and gravity of a race bred under a cold uncongenial sun, untrammelled educational establishments at his very door, no class distinction to sneer him down, and every opportunity to gratify any inclination either in the playground, the workshop, or study, the Australian native should stand forth as the creature best able on earth to resist disease, and the most willing to listen to wholesome advise on sanitation. His love of outdoor sports, engendered by the easy hours of labour and the many open reserves, saves him from the several temptations which surround life at the time of its puberal development, whilst the constant sunshine, the frequently recurring holidays, and variety of amusements relieve his toil from the chilling monotony that in other countries is the parent of habitual intemperance. Why then, in such an apparent paradise, peopled by those who ought to be Hercules and Apollos, are our death rates so high? This is a question that, doubtless, the congress will inquire into, and its deliberations will, I trust, throw some light upon those vexed matters of drainage, ventilation, and other items that so intimately affect the sweetness and healthfulness of life.

I wish, however, to draw attention to one or two points which, though perhaps well known to the profession, are not generally recognised by the public at large. In all English-speaking communities the mortality bills are swelled principally by three affections—alcoholic intemperance, tubercular deposits, and typhoid fever—scourges in the main preventible; but the remedies for which, either from the expense, or from other causes, we will not boldly and manfully face.

First then, with regard to drink. You all know how inimical to treatment its effects are, and how great is the misery it occasions. I have no wish to read you a teetotal lecture; there is, however, one peculiarity which stands out rather prominently, and which I think should have weight with us all, when, as medical men, we are called upon to prescribe spirits as a drug; and that is the fact that alcohol is much more potent with us than it is at home. If we turn to the statistics that Mr. Hayter annually furnishes to the Government of Victoria, we find that the deaths set down to drink are numerous compared with those of even the most intemperate countries, and such a calculation would naturally lead to the assumption that we Australians are an extremely drunken people. I do not desire to go out of my way to find excuses for much excess in this particular, nor would it be proper for me to say that there is no drunkenness in Australia, but I assert with the strongest emphasis that habitual drunkenness is an exception with us. Visitors from abroad, who have been to any of our great gathering at military displays and racing carnivals, or who have seen the crowded attendances at athletic meetings in any of the colonies, must have noticed the absence of drunkenness and rowdyism. What really is the case is that alcohol, in whatever form it may be taken, is not suited to the climate or the conditions of the people, so that hepatic and renal affections are sooner and more frequently engendered by its use than they would be under the same circumstances in a colder country.

Looking at the habits of European populations, however, I cannot but regard it as a slander upon our manhood to charge them with systematic drunkenness. A great number of our native born youths are total abstainers from birth, and, while not forgetting the intemperate opinions sometimes expressed by temperance advocates, I must admit that temperance societies have worked a good deal of useful reform. As a food in the low delirium of fever, and as a means of preventing waste of tissue in erysipelas and kindred diseases, and for the aged, alcohol is doubtless essential, and of great service. Yet the death-rate ought, I think, to teach us the necessity of care in the use of intoxicating liquor, and that, as medical men, we should be very cautious, far more so than our brethren have need

to be in colder climates. What we have to regard is the great probability of its continued and over-moderate use being prolonged when the necessity for its employment has ceased, and of its setting up local congestions, which, in time, destroy the functions of the organs they effect.

Of phthisis and typhoid fever I have already said that the former appears to be nearly as common in Australasian as in English towns; and typhoid, both in urban and rural districts, is nearly of twice as frequent occurrence. I think it offers occasion for the gravest consideration to discover how, in a country so richly endowed, and with a climate so genial, we should yet be afflicted to so terrible an extent with two diseases of parasitic origin, both of which, pathologists assure us, are eradicable. It is curious to notice how the etiology of phthisis has varied among physicians from time to time. In my early days it was impressed upon us that consumption chiefly arose from defective ventilation, and the inhalation of irritant particles. Then came the catarrhal or pneumatic organs—neglected colds and so forth—and now we find that neither nor all of these reasons will suffice to account for the large bills of mortality from phthisis in this land. In my opinion, next to its hereditary inception, the greater part of phthisis will be found to be associated with defective drainage, and this, I believe will be proved by bacteriology. I cannot but think, therefore, that it will always be endemic with us until we devise some proper and complete method of carryiug off our sewage and fluid house refuse.

Typhoid fever is with us a true *opprobrium medicorum*. It is with us, of us, among us, upon us. It is a spectre we apparently cannot exorcise. It is truly "the pestilence that walketh in darkness, and the destruction that wasteth at noonday." It is at once a terror and a reproach. It defies legislation and administration, it laughs at boards of health, and triumphs ruthlessly and always. Are we never to cope with this terrible affection? As far as Melbourne is concerned, we hope much from the commission which is now holding its meetings; and we trust that whatever scheme is decided upon, it will be adopted without the long delay that generally follows the decisions of such bodies. But in the meantime, the same things go on. Streets are marked out, and houses are built without the semblage of drainage, Then the warm weather comes, and fever stalks each year more greedily and viciously than before. No doubt the section constituted to discuss these matters relating to hygiene and public health will indicate what steps modern sanitation should take towards the suppression of this conspicious evil. The views of medical men and health officers are always valuable when they take some practical step, especially on such a subject as public health. On such matters they alone, from their educational training, are capable of expressing opinions worth listening to. I sincerely trust our health boards will derive information from the deliberations of the section of hygiene.

All branches of our profession seem steadily to advance. Annually some new surgical measures are contrived, some new drugs are introduced, some disorders discriminated. What future is there for sanitation? Sanitation, unlike other divisions of our art, must go hand in hand with the educational progress and mental improvement of the people. Without the schoolmaster, all efforts we could make must inevitably prove futile. An intelligent conception of its purposes by the authorities, both parliamentary and local, is absolutely necessary. It is here that I hope much may result from such a gathering as this congress, for in all matters that relate to medical and sanitary requirements it seems to be nearly an invariable rule for legislative enactments to be considerably in arrears. With borough and shire authorities, I believe these bodies do, in the main, the best their lights permit them, but the insanitary conditions of their respective localities are attributable, I conceive, to either a want of information, or a reluctance to exercise their powers. Because diphtheria happens to be absent for a time from their district, they fail to see danger in a cesspit, or the necessity of milk inspection, and so forth. Doubtless the advanced education the young are receiving, in at least the better class of schools, the instruction in the elements of physiology and the general principles of hygiene, will in time have its effect on our future statesmen and councillors. And in this direction I think much benefit might accrue from the appointment of a few thoroughly trained and carefully chosen sanitary instructors, whose duty it should be to travel from town to town, and even from house to house, with the object of teaching the principles and the advantages of health laws, and the consequences of a disregard of them, for it is certain that the value of cleanliness cannot be properly understood until the dangers of filth are comprehended.

I should like while on this subject to say something in strong praise of the hygienic arrangements that have been carried out in Adelaide. The method of drainage appears to be as nearly perfect as it can well be, and as there is a large model of the system in the South Australian Court of the Exhibition, it would be well that everyone interested in this subject should see it. If it be possible to adopt in this much larger city the same system, I am prepared to say that the death-rates would be lowered to an extent now hardly dreamed of. Nor is the incidental advantage in connection with this system of the disposal of the sewage to be lost sight of. The Adelaide sewage farm is a very joy of scientific agriculture. In Sydney they are commencing with earnestness to drain their busy city; and although the underground drainage of Melbourne is at present little more than rudimentry, we have at last made a beginning.

But what is more encouraging, and prognosticates well for the generation that is to follow us, is the lusty outdoor life, and the sturdy games the Australian so dearly loves. Amongst those who ever have seriously revolved the subject in their minds, some doubt must have arisen whether the youth of these great colonies would walk in the steps of their parents, or influenced by a hotter sun, follow in the wake of their American kinsmen, and forsake the green sward for light amusements, ease, and luxury. I rejoice to say that this question is entirely set at rest; the Australian's prowess on the river and the cricket-field has settled that matter, and he promises, as far as physical development goes, to even surpass his fathers. It is rather extraordinary that the out-door life and national games of the mother country should have taken such a hold on the young folk of Australasia, for I believe in no other part of the world have the sons of the Anglo-Saxon or Celtic emigrants done the same. Certainly, in America or South Africa, neither cricket nor football is generally played. Now, this love of these manly games must have an influence for good on the manhood of this country. Personally, I have no sympathy with those who would decry these athletic exercises, either because at times they

may be carried out too roughly, or sometimes are accompanied by some degree of danger. The very roughness of football is an element of good. It develops courage and good temper; one hears too much nowadays about gentleness and the velvet hand. We require a little fibre, which these games tend to impart. When I look at the footballer ready for action, I cannot help admiring his muscular frame, and sympathising with him in the pride he takes in his sturdy limbs, his form, and activity. Contrast him with the boy one meets with on the Continent, parading through the streets. Which is the more likely to grow up a self-reliant, useful citizen, the footballer or the young gentleman who spins his tops and bowls his hoops in gravelled enclosures? Depend upon it, these games are important factors in the formation of the moral tone of this country. We should encourage them to the best of our powers, and endeavour to allay the fears of timid over-anxious parents. If a few limbs are broken annually, and even now and then unfortunately a death occurs, it would be better that four times the number of casualties should be told, than that our boys should grow up hypochondriacal and dyspeptic.

Looking round this assemblage of representatives of the great guild of medicine, drawn here from every province of Australasia, I cannot deny myself the pleasure of thinking that we are all students, still engaged in the work upon which we entered, some of us, many years ago. We have had our ambitions, our difficulties, our trials, our disappointments, and now and then our successes. We have been engaged in the hard business of living; we have had to contend with opposition on many occasions, and sometimes we have had good reason to believe we were not too fairly dealt with. However, I am sure it has been the consolation of all of us to feel, that in the acquirement of the knowledge necessary for the exercise of our craft, we command a source of enjoyment that nothing in the way of fret or ill or mere professional failure could take from us. We have thus all added something to the common store of medical knowledge. We have in this way experienced a delight compared with which the greatest material success holds only subordinate place. Like another God-like attribute, the *ars medendi* "blessed him that gives and him that takes." It is a delight to make discovery in our science; but I am sure it is a delight still greater to know that the discovery may be of service to our professional brethren in relieving suffering humanity. It is thus a privilege to thank God for, that our domain of discovery can never be exhausted, and that no matter how great may be the researches of others, there is still left room for us to go on exploring. It is the very glory of medicine that it is not finite. It has been brought against it as a reproach that both its principles and its practice are always undergoing changes. I reply, with a feeling of triumph, that these changes are the very evidences of our progress. If we have a motive at all, it is "Onward." It is not our despair, but our boast, that medicine is not an exact science. We are not content with what we have done, but we look forward to the greater, the better, and the higher doing. "Still achieving, still pursuing," we "learn to labour," and if we "wait" at all it is not in the dull apathy of contentment at what has been done, but in the belief that the "Greatest is behind." It is with this feeling, this hope, this ever constant and unswerving faith that I regard the coming together of my brethren on this the opening day of the second session of the Medical Congress of Australasia.

DEAFNESS AND DEAFMUTISM, IN RELATION TO SPEAKING AND LIP-READING.[1]

By James Erskine, M.A., M.B.,

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The term "deafness," as commonly used, denotes any impairment of hearing, and gives no definite indication of the degree of the defect. By "dulness of hearing," is generally indicated a comparatively slight degree of impairment. The same term is often used as an euphemism when the patient is inclined to take too favourable notice of his defective hearing, and is therefore apt to delude others as well as himself. A correct estimate of the auditory defect in all cases can only be formed from careful examination by means of the usual tests—namely, (1) the voice, (2) the tuning fork, (3) the watch, (4) Galton's whistle, (5) the acoumeter, (6) the artificial drum, (7) the hearing tube, and (8) the audiphone. The three last named are also employed as aids to hearing. The artificial drum in appropriate cases often increases the hearing power very greatly, the improvement quite astonishing the surgeon as well as the patient. The various forms of artificial tympanic membranes should be tried, because sometimes one is found that suits the particular condition of the middle ear better, and produces much more improvement of the hearing than others. Patients and the public should be warned against the deception that the "ear-drums," as advertised by quacks, can be used with benefit in any case. The hearing-tube or ear trumpet enables some patients to hear the voice, and distinguish the words spoken into it. The audiphone is useful in the same manner, but is not so convenient. Such aids to hearing as the hearing-tube and audiphone are repulsive to most patients, and only in a small proportion of cases are they found to be practically useful. Young people especially do not readily avail themselves of the benefit they may yield.

If the patient cannot hear sounds either by air-conduction or bone-conduction, he is pronounced totally deaf. In many cases the loss of hearing may be by no means absolute, although the degree of hearing power that is retained may be of no practical value. The patient may be able to hear the sound produced by a vibrating tuning-fork when it is placed on the bone behind the ear, or on the other bones of the head. He may even be able to hear the sound of a loud clear voice when delivered close to his ear, but be unable to distinguish the words. Such a person is practically deaf. Any degree of defective hearing amounting to inability to distinguish words spoken into the ear in a loud clear voice may be termed deafness. The term dulness of hearing may be used to denote any degree of impaired hearing co-existent with the ability to hear words intelligibly when distinctly pronounced near the ear.

In the case of a young child the degree of deafness appears greater than it really may actually be, because the child does not make such an earnest endeavour to hear as the adult deaf person. It is a very serious matter for a young child, say about two or three years of age, to lose the ability to hear even the voice as used in general conversation. Such a child soon gives up listening altogether, and in consequence ceases to speak because it cannot hear others speaking. In very young children this result may follow a comparatively slight deficiency of hearing power.

[1] Read before the Glasgow Southern Medical Society, February 21st, 1889.

The tendency to dumbness as a result of the occurrence of partial or total loss of hearing in the case of a child depends on the age of the child at the time, and the degree of deafness acquired. It may be laid down as a general rule that if a child becomes deaf before the age of four years, dumbness almost always follows. The speech is very often lost even if the deafness is acquired between the age of four and seven. The younger the child the smaller is the degree of defective hearing that will produce dumbness. But in any case the speech of the child may be retained if means to practise it be taken by the guardians or parents, being alive to the danger of losing it altogether. In the case of an intelligent child who has learned to read it is quite possible by making it read aloud for a certain time every day, and by teaching lip reading, to retain known words, and add others to its vocabulary. There must be no delay, however, in attending to the tuition of such a child after the loss of hearing. By neglect, such cases soon become almost as intractable as those of the congenitally deaf.

There can be no question as to the importance of hearing words by the child in its very earliest years. Learning to speak is an imitative process. Even in its first year the child's vocabulary is mainly composed of more or less successful attempts at imitation of the words of the language of the mother, the nurse, and the people by whom it is surrounded. It also imitates the sounds of natural objects, and uses them as signs of the objects. By the loss of hearing, the young child is therefore deprived of the use of these natural sounds, and also of spoken words which are ready-made instruments for defining and expressing thoughts. When a child does not hear the words used to denote the objects by which it is surrounded, it soon gives up using the few words it has learned. This result occurs because the words are as nothing to the child when it cannot hear them. The relation of the thought to the word in the case of children is by no means an abstract one. The word is merely a label put upon the article by which it is known. The words which a child has learned as the names of things are only applied by an objective experience. Some appeal must be made to the child by the object of thought through the senses before it will apply the name. It therefore does not use words abstractly, and so forgets them readily. The surroundings supply the young child almost entirely with thoughts. Place it in new surroundings, and it will have little left to relate it to former circumstances. The use of words is essential to the mental development of the child. The more words it uses the better will it be enabled to think.

The number of cases of congenital deafness is small in proportion to the number of cases of acquired deafness. The record at the Glasgow Ear Institution, made during the last eighteen months, and comprising sixteen hundred individual patients' cases, contained fifty-eight cases of deafness as already defined. Only eighteen of these were cases of deafmutism, or deafness and dumbness. The following were the ages of these patients when they were brought to the Institution—namely, seven under three years; four between three and four years; three between four and five years; one between five and six years; one between six and seven years; one between seven and eight years, and one aged thirteen. Only six of the eighteen were proved to be deaf since birth. Of the other twelve, five had suffered from meningitis; two from destructive purulent inflammation of the ears; two from convulsive fits during whooping-cough and teething; one from hereditary syphilis; one from injury to the head, and one was reported to have been deaf after a fright. All these children were regarded as deaf and dumb for longer or shorter periods before they were presented for the purpose of obtaining a medical opinion on their aural defect, and advice in reference to their education.

The faculty of speech had been retained in forty cases out of the total fifty-eight. These forty patients had lost their hearing after they had reached the age of ten years. Between the ages of ten and fifteen there were five cases recorded; between fifteen and twenty, six; between twenty and twenty-five, six; between twenty-five and thirty, five; between thirty and thirty-five, four; between thirty-five and forty, four; between forty and fifty, five; between fifty and sixty, two; between sixty and seventy, two; above seventy, one. Chronic purulent inflammation in twelve cases had destroyed the middle ear and adjacent structures. It is noteworthy that such a large proportion of the cases resulted from neglect of what is commonly called "running ears." Some of the patients stated that their ears had been discharging matter as long as they remembered without any attempt at appropriate treatment. One of those twelve cases was associated with hereditary, and another with acquired syphilis. In eleven cases the symptoms and appearances in the middle ear were referable to chronic dry catarrh, the deafness having been progressive during a long period. In one case the patient described the symptoms that had preceded the occurrence of complete deafness as having set in during severe seasickness. In five cases there were indications, and the history of hereditary syphilis, and in one of acquired syphilis. In four, Menières complex of symptoms were more or less marked as preceding the extreme degree of deafness. Cerebral symptoms were reported in other four cases. Sunstroke produced loss of hearing in one case, and injury to the head preceded it in another. In one case no definite history of appreciable symptoms could be obtained.

The percentage of deaf mutes in the total number of the 1,600 patients is 1.125, and the percentage of deaf, but speaking, patients is 2.5. Taking deaf patients under the age of thirty-five as those likely still to be concerned about their education, we find that the number amounted to twenty-six in 1,600, that is 1.625 per cent., or rather more than the percentage of deaf mutes. The ages of those deaf people given in the statistics are, of course, in advance of the ages at which they became deaf, many having suffered from greatly impaired hearing for months or years previously. It is perhaps unnecessary to state that all the cases under review are those of incurable deafness. It should also be pointed out that the proportion of cases of deafness and deafmutism, as shown by the statistics, is necessarily large in relation to the total number of 1,600 cases, as these were all cases of patients complaining of disease or injury of the ear in all their various forms and degrees.

From observation of the records of the ear institutions in this country I have found that the proportion of deafmutes to the total number of patients is about twelve in 1,000. Possibly some patients may be included in the number who were deaf, and not absolutely mute. The proportion of deaf-mute patients at the Glasgow Ear Institution, it may be again noted, was 1.125 per cent., or 11.25 per thousand.

The proportion of deaf-mutes to the hearing population is, of course, much smaller than what is found in relation

to the number of cases of diseases of the ear. According to the last census there were in Scotland 573 deaf-mutes in every million of inhabitants, that is, one in every 1,744, or 0.57 per 1,000, or 5.70 per 10,000. The proportion of deaf-mutes to the hearing population of the world is said to be about seven per 10,000. The number is highest in Switzerland—namely, 24.5 per 10,000; and the lowest in Holland—namely, 3.35 per 10,000.

Deafmutism is most common in hilly countries, the inhabitants of which are necessarily given to intermarrying with near blood relations. In some parts of Scotland, especially in the islands from which there is limited communication with the mainland, the number of deaf and dumb is said to be large. In the village of Lamlash, in the island of Arran, the number of deaf-mutes is reported as six in a population of about a thousand. Deafmutism is more prevalent in certain religious persuasions than in others. It is commonest among Jews on account of their close intermarriage. The proportion is smallest among Catholics, to whom such marriage is forbidden. The number of deaf-mutes in China is very small, as consanguineous marriage is positively forbidden by law. There can be little doubt that consanguinity in marriage is an important factor in producing congenital deafmutism. Heredity also plays a great part in the transmission of deafmutism. The most remarkable case I have seen was brought to me about five years ago. The boy was five years of age at the time. The following members of the family to which he belonged were deaf and dumb—namely, his father and mother, one paternal and two maternal aunts, his paternal grandmother's two full cousins, as well as her second cousin. Direct transmission of deafness from parents to child is very rare, according to Dr. Hartmann, of Berlin, a leading authority on the subject. He shows that indirect transmission is more frequent, children often inheriting a defective constitution, which must also be supposed to account for the occurrence of congenital deafness in a family without apparent hereditary tendency. Dr. Kramer describes one family in which six sons were born deaf, and five daughters with perfect senses, while the parents were both healthy. Professor Politzer reports that he saw in one family in which there existed no hereditary disposition, four deaf mutes out of ten brothers and sisters.

Professor Graham Bell, in a report very recently presented to the United States Census Commission, shows that the deaf-mute population is now nearly four times what it was in the year 1850, the total population having only somewhat more than doubled in that period. He traces the transmission of deafmutism through four generations. The percentage of intermarriage, he states, has continuously increased, till now not less than 90 per cent. of all deaf-mutes who marry take partners who are themselves deaf and dumb. At the date of the last census (1880) he finds that one person in every 1,480 of the general population was deaf and dumb, and one in every sixty-four of the deaf-mute population was a child of deaf-mute parents. One person in every 2,756 of the general population was deaf from birth, and one person in every thirty-eight of the congenitally deaf was a child of deaf-mute parents. Professor Bell points out that by the laws of heredity, if these deaf children marry congenitally deaf husbands or wives, an increased proportion of deaf offspring will appear in the next generation. The continuous intermarriage of congenital deaf-mutes from generation to generation will ultimately result, he declares, in the formation of a deaf variety of the human race in America, in which all or most of the children will be born deaf.

Such facts as these should awaken the people of this country to a sense of their duty of caring for what is somewhat coldly entitled one of the "defective" or "abnormal" classes of society. The Education Act of 1872 declares it to be desirable "that the means of procuring efficient education for their children may be furnished and made available to the whole people of Scotland;" and Section 69 declares it to be "the duty of every parent to provide elementary education in reading, writing, and arithmetic for his children between five and thirteen years of age." Why should deaf children, or any other abnormal class, be excluded from sharing in the benefits of the universal boon of a common education?

It is becoming too late in the day to discuss the comparative merits of the oral method of instructing the deaf as compared with the finger or sign system. As far back as the seventh century we find an instance recorded of teaching the deaf and dumb to speak. The Venerable Bede describes how the Archbishop of York, St. John of Beverley, taught a dumb lad by the oral method. Towards the end of the fifteenth century Rudolph Agricola, of Heidelberg, wrote a book entitled, "De Inventione Dialectica," in which he tells of an educated deaf-mute who had been taught by him to speak. In the following century Pedro de Ponce, a monk in a Benedictine monastery in Spain, taught speech to deaf-mutes. He really occupies the earliest important position as a teacher of the deaf and dumb. It is notable that the first successful teachers, both of the oral and sign methods, were Benedictine monks, for the founder of the digital system, the Abbé de l'Epée, belonged to the same order. As promoters of the oral system, there followed after De Ponce, Dr. John Bulwer, a physician, the cheirosopher of England, and Dr. John Wallis, professor of mathematics at Oxford, who both lived in the later half of the seventeenth century. Dr. Bulwer published a work entitled, "Philocophus, or the Deaf Man's Friend." Professor Wallis showed to the Royal Society a deaf-mute pupil of his own, who was able to speak and read the lips. John Conrad Amman published a book in 1692 called "Surdus Loquens" (the speaking deaf). He was the most eminent instructor of the deaf in Holland, and established the oral system on a definite basis. It was not till the middle of the eighteenth century that the cause of the education of the deaf and dumb was taken up in France by Pereira at Bordeaux, who became a teacher of the oral system, but he made a secret of his method, and would only give his services to the rich in return for high fees. The first institution for teaching the deaf in France was founded at Paris by the Abbé de l'Epée, who taught entirely by the digital or sign system, which is, therefore, called the French system. The oral method of articulation and lip reading was first systematically taught by Samuel Heinicke, who started an institution for the deaf and dumb at Leipsic in the year 1778. Hence this system is called the German or oral method. Heinicke entirely discarded the fingers and signs, and met with much success. The first school for the education of the deaf and dumb in Great Britain was established by Thomas Braidwood in Edinburgh in the year 1760. We have still its local name of "Dumbiedykes," preserved in Sir Walter Scott's "Heart of Midlothian." In his teaching Braidwood adopted the oral method. He seems to have been very successful, and to have attained wide celebrity. Dr.

Samuel Johnson paid a visit to his school, and expressed himself highly pleased with his mode of instruction. The history of the education of the deaf and dumb shows that from the earliest times, they were trained to speak, and also to read the lips. We need only refer to the modern institutions and schools in this country and throughout the world, successfully teaching by the oral method. Even in France, the very birthplace of the sign system, the oral method is fast gaining ground. There are about fifty institutions in Great Britain and Ireland devoted to the education of the deaf and dumb by the two methods, and by a combination of them. The International Congress on the Education of the Deaf, held at Milan in 1880, declared unreservedly in favour of the pure oral system. The best authorities on the subject are of the same opinion. The combined system has met with very little favour, as the two methods are mutually destructive.

What is urgently called for is provision for the education of our deaf children in our public schools by the oral system. The School Boards of London, Leeds, and Sheffield, made arrangements, a few years ago, for such instruction of those unfortunate children. In Scotland, the School Boards of Dundee, Greenock, and Govan, have done the same. There is no good reason why the deaf should be allowed to become dumb, and, therefore, suffer mental, social, and other disadvantages. The only thing of which a deaf-mute is deprived is the sense of hearing. He is in full possession of the organs of articulation. The time was when it was held that these organs were at fault, and not the ear. This was the case till the end of the sixteenth century. For a long time the deaf and dumb had been regarded very much as imbeciles, but when it was discovered they were perfectly rational, all manner of operations were performed on various parts of the organs of speech, and it is fearful to think of the tortures which this afflicted class had to endure by reason of this error. Valles, the surgeon to Philip II. of Spain, who lived about the end of the sixteenth century, was among the first who showed that the organ of hearing was at fault, and not the organ of speech—that dumbness resulted from deafness.

Parents and guardians have a right to demand for their deaf children a common education in the ordinary public schools. It is a terrible hardship for parents to educate their deaf children as they would desire, by reason of the expense. It is the duty of School Boards to provide the means of education for deaf children along with hearing children. The Education Acts do not specially make provision for such teaching, but the School Boards have the power to teach them if they are inclined to do so. Surely the small matter of a little extra expense for providing specially trained teachers for the work ought not to hinder the members of the School Board of Glasgow from taking the matter in hand at a very early date. The admirable educational organisation under their care cannot be considered complete without such provision.

The statistics already quoted (excluding the eighteen cases of deaf-mutes) show that one fortieth part of the total number of cases recorded at the Glasgow Ear Institution during eighteen months were practically deaf. All those forty patients were above the age of ten years, and retained the faculty of speech in a more or less perfect degree. Five of the forty were between the ages of ten and fifteen years, and might therefore attend a public school, if oral instruction were given there. Twenty-one were between the ages of fifteen and thirty-five, and the remaining fourteen were between thirty-five and seventy-two. All those thirty-five persons were beyond school age. One young woman among the number had received no systematic instruction whatever, and was unable to read or write. A considerable number of these patients could only write and read with difficulty, and very slowly. The large majority of these forty deaf people were at work, and found themselves at a great disadvantage when deafness overtook them. Some had lost their situations on account of their affliction, and were unable to find employment. For all such persons who lose their hearing after school age, there is no accessible means provided for acquiring lip-reading, of which they stand so much in need. Private tuition only very few can afford. Moreover, such people cannot leave their work or business during the day-time.

All must admit that instruction by the oral system is specially adapted for those who have lost their hearing. Retaining, as they do, their speech, they are already in possession of a large part of the benefit offered by that system of instruction. Only defects in articulation require attention, and in many cases the slight hearing that may remain enables the pupil to impart modulation and tone to the voice. When a person becomes deaf, he instinctively endeavours to compensate for the defect by using his eyes to read the lips of the speaker who addresses him. The art of lip-reading is therefore initiated in this way, and, in order to make its acquisition perfect, systematic instruction is required.

People who lose their hearing are very much disinclined to associate with the finger-speaking deaf and dumb. It is their earnest desire to retain the means of communication with their speaking and hearing neighbours, very few of whom are acquainted with the finger alphabet. The digital signs are much easier learned than oral communication. Deaf children, therefore, resort to signs readily, being ignorant and careless of consequences. Deaf adults are alive to the importance of speaking and lip-reading; so are the parents and guardians of deaf children, and make eager inquiry regarding the oral system in favour of which they always express themselves, and if they do not carry it out, the expense alone prevents them. For that reason they find they must either place their children in asylums or institutions, or neglect their education altogether.

The adult deaf people of Glasgow have formed themselves into an association, and with the assistance of a few friends have provided systematic instruction for themselves in lip-reading. They have already obtained the services of a trained teacher of lip-reading and articulation. The meetings take place in the evenings in the rooms of the Ear Institution, and good progress is being made.

MASSAGE.[1]

By Adolphe Wahltuch, M.D.,

honorary physician to the hulme dispensary, manchester.

Muscular contractions in the human body came, for the first time into play, when the first human being, ever existing, began to breathe, to take nourishment, and to move abont in this world. Regular muscular exercises, or medical gymnastics, are recorded in early literature of the Hindoos and Chinese. The oldest book of the Hindoos —the "Susruta," and of the Chinese the "Cong-fù,"

[1] A paper read before the Clinical Society of Manchester, on February 19th, 1889.

contain illustrated descriptions of medical gymnastics. At all times, and amongst all nations, methods of healing diseases by mechanical means were and are practised. The gymnastics of ancient times, as practised at the Olympic games of the Hellenes, and in the arena of the amphitheatre by the Romans, were healthy exercises, and intended to strengthen the body, but they were one-sided and often injurious. There was wanting the chief element of modern gymnastics—the equal development of all parts of the body. The gymnastics of the ancients were impotent against indolence and corruption of manners, and thus became merely a play-work of a degenerate race. The Teutonic races, living in a primitive state, led a hunter's and a warrior's life in woods and fields, had plenty of outdoor exercise, and thus practised natural gymnastics. Their characteristics, according to Tacitus, the historian, were temperance and purity of manners; but later on they became affected by the corrupt morals of other nations; their powerful constitution was undermined through the concentration in towns and the worrying demands of civilisation, which confined them more to indoor and sedentary occupations. Science came to the rescue and provided new kinds of gymnastics more in accord with the requirements of the age. German athletics, Swedish movement-cure, modern massage, with rational and more natural habits of life, are directed to strengthen the healthy, and to invigorate the weak parts of the body, and to benefit in consequence the over-taxed mind.

Modern massage forms now a special branch of therapeutics, and is gaining daily in popularity and usefulness. Dr. Metzger, in Amsterdam, has done much to demonstrate in practice the advantages of massage as affording relief to numerous sufferers, several reigning sovereigns having derived considerable benefit from his treatment. Massage means the manipulation of the soft parts of the body by stroking, rubbing, tapping, beating, or kneading, with a view to accelerate local circulation of blood, or lymph; to induce absorption of fat or of other unhealthy deposits in the skin, muscles, or joints; to excite muscular contractions; to modify beneficially the nerve-current in various local or general neurotic affections. Massage is effected by the human hand, so well adapted for the purpose. A variety of effects may be produced by using, according to circumstances, the tips of the fingers, the thumb only, the knuckles, the edge of the hand, the fist.

There are four terms expressive of the various manipulations in massage: 1. Effleurage, 2. Pétrissage, 3. Tapotement, 4. Friction.

1. *Effleurage.*—Stroking with the palm of hand, the tips of fingers, the thumb, the knuckles, or the edge of the hand. Effleurage has a soothing effect and relieves pain from tension, neuralgia, etc.

2. *Pétrissage* consists of pinching, pressing, squeezing, rolling and kneading. To be done centripetally, from periphery to trunk, in direction of the current of the lymphatic or veinous vessels. This excites action upon the lymphatics and capillaries, stimulates circulation, promotes absorption, and improves nutrition.

3. *Tapotment.*—Tapping, percussing, tickling, hacking, thrusting, used for deeper muscles of the loins and back.

4. *Friction.*—Rubbing for superficial purposes.

To be more explicit: pressing is done with the thumb; tapping, the tips of the fingers slightly bent (useful in neuralgia of face and cranium); thrusting, using the finger-tips with extended hand; hacking, done with edge of hand, fingers kept apart or together; pinching, keeping thumb on one side and the four fingers on the opposite side, like a pair of pliers; squeezing, same as pinching, but the thumb alone coming into play, the fingers remaining passive; rolling and kneading, using both hands, thumb of both hands on one side, and the four fingers of the two hands on opposite side and manipulating like making dough. In addition to these movements of the limbs, at first passive, then active, are effected, consisting of flexion, extension, pronation, supination, rotation. These movements must be performed at first gently, and by degrees more energetically. The patient at first remains passive, the operator performs the movements for him; in active exercise, the patient performs these movements whilst the operator offers the resistance. The best costume for the patient is a suit of flannel.

Dr. W. S. Playfair says of massage (*Lancet*, January 7th, 1888):—"I would strongly urge everyone contemplating the treatment of a case in this way, either to do it thoroughly and well or not to do it at all." Further, he remarks: "Massage is contradicted in organic disease, but beneficial in functional affections."

Diseases in which massage is of undoubted benefit:

1. *Rheumatism and Neuralgia.*—Massage is useful in muscular rheumatism and in neuralgia, if not due to inflammatory condition. How many are relieved of pain by the use of some ointment, but in such treatment a kind of massage is employed in addition, as the ointment simply applied is not efficient, unless it be well rubbed in. The chief object is the local acceleration of the blood-current, and removal of accumulated morbid waste, or the production of molecular change in muscular or nerve tissue. These effects are easily obtained by massage alone, without the fatty or alcoholic adjuvants in ointment and liniment. Neuralgias may be due to anæmia or hysteria; in such cases massage and passive and active movements will increase the oxidising power of the blood and improve nutrition generally. No doubt the internal administration of tonics, and proper hygienic measures will act as desirable adjuvants. I have used massage in sciatica, in lumbago, and in neuralgias, with marked improvement; in fresh cases one or two applications gave undoubted relief. I applied gentle stroking at first, then pressing, kneading, and finally hacking; time: fifteen to thirty minutes. In sciatica I also used flexion of thighs ten times in a horizontal position, then in a sitting position; I grasped the shoulders, bending the body forward. After a short rest, I recommended a sharp walk out of doors.

2. *Chorea.*—In the Hospital des Enfants Malades in Paris, ninety-five cases, which had resisted all other forms of treatment, were recorded in 1851, as cured by mechano-therapeutics. Dr. Sée places the treatment by massage and movement-cure of choreic children in the front rank of therapeutic measures. As the result of numerous observations, N. Laisné arrived at the conclusion "that none of the means hitherto employed against chorea can show such a uniform success as mechano-therapeutics, and that with the arrest of incoördinate movements, the general health of the child markedly improves, so that not only the chorea but the accompanying anæmia is cured as well." Du Bois Reymond states, "muscular exercise is not exercise of the muscles alone, but exercise of the brain and cord as well." Johannes von Müller, another great physiologist, says, "Perfection in bodily exercise consists often as much in the suppression of useless movements as in the acquirement of those desired." We must admit that in chorea by massage and movement-cure the brain is

directed to recover its equilibrium; the reflex and irregular movements become coördinate to the will and regular.

I have lately used massage in a case of severe chorea, after acute rheumatism, in a girl, æt. ten years, and noticed remarkable and speedy improvement. She suffered from anæmia, and after a month's treatment the pallor disappeared, and the child felt stronger and healthier.

3. *Obesity*.—I have used massage in three cases of adiposity of abdomen, and in each case have observed the gradual diminution of fat.

(1) Miss M——, æt. thirty, general obesity, and especially of abdomen, varicose legs, piles, irregular bowels, capricious appetite, flatulency, shortness of breath. After four months treatment fat considerably reduced, bowels became regular, no flatulency, breathing easy, and appetite good.

(2) Mr. C——, æt. seventy, general obesity, fatty heart, slow digestion, flatulency, faint feeling, shortness of breath. Improved considerably after six months' treatment.

(3) Mrs. E——, æt. thirty-six, habitual costiveness, irregular menses, abdominal walls flabby and fatty. After two months' treatment the bowels began to act regularly, and the catamenial periods formerly every six or seven weeks, returned regularly every four weeks; the abdomen felt firm, and there was a diminution of fat.

I have no doubt now that fatty deposits speedily disappear after prolonged massage, and shall recommend it in all cases that may come under my observation. Dr. Rossbach remarks, "muscular exercise does not increase the elimination of albumen or other nitrogenous compounds; consequently massage does not diminish the real source of maintenance of power."

4. *Arthritic Joint Affections*.—Billroth reports favourable results observed by him during the use of massage at his clinic. Schreiber recommends gentle manipulations, and cautiously executed passive movements. He mentions a case of a lady, aged thirty-five, who had been unable to walk for two years on account of pain in the right knee; she had never borne children, was well nourished, and gave no evidence of hysteria. Continuous treatment lasting four months permanently removed both the pain and the disability to walk. Billroth, speaking of sprains and chronic rheumatic arthritis, says, "I can only agree with the opinions of my colleagues, Von Langenbeck and Esmarch, that for suitable cases massage deserves more recognition than it has received during the past few decades."

5. *Paresis* not due to organic disease; gentle treatment by stroking and pressing produce reflex stimulation of the motor tracts; passive and active exercises. Erl recommends massage as a means of hastening the cure, but always uses electricity in the treatment of milder as well severer forms of paralysis. Dr. Stretch Dowse says, "My growing experience leads me to the conclusion, that massage and electricity should always be employed in association; frequently by the aid of the two success is obtained, whilst each singly produces only a slight effect."

6. *Narcotic Poisoning* by opium, morphia, chloroform, chloral. Beating, pinching, hacking of the muscles over the whole body; stroking, tickling, or whipping with rods the palms and soles. Schreiber considers this treatment far superior to the application of electricity, sinopisms, ammonia. Successful cases are reported by R. Levi, of Venice, in a pamphlet "On the Effects of Flagellation in Narcotic Poisoning." Graves and Barratt report cases of recovery from opium poisoning by applying a few supple willow switches vigorously to the palms and soles. Dr. Bullar, of Southampton, claims to have saved every case in which there was suspension of respiration following chloroform narcosis, by persistent slapping of the patient's body. Dr. Meyer, of Chicago, reports a case of chloral poisoning, in which flagellation was instituted several hours after the drug had been taken, and that consciousness soon returned.

7. *Abdominal and Pelvic Swellings*.—Dr. Semianikoff (*Lancet*, February 9th, 1889) is reported to have obtained in twenty cases of chronic pelvic inflammation and ovaritis high results by abdominal massage. Von Winiwarter regards abdominal massage as indicated in all cases of ovarian cysts, where from any cause operating is impracticable. He recommends it further for any deep lying abdominal tumour, the nature of which is obscure, and remarks, "I am quite ready to shoulder the responsibility for the mildly comical aspect which appears to lie in the proposition of treating abdominal affections by fisticuffs!"

8. *Eye Diseases*.—According to the unanimous opinion of the most eminent oculists, massage is beneficial in the following diseases of the eye: conjunctivitis pustulosa, conjunctivitis marginalis hypertrophica, episelcritis, corneal opacities following pannus and scrofulous and parenchymatous keratitis.

9. *Eczema*.—After an attack of acute eczema I noticed some slight infiltration in my legs. I applied daily after my morning bath centripetal stroking for a few minutes, and in a fortnight these infiltrations entirely disappeared.

A new variation of massage is the treatment of pain by mechanical vibration. In hemicrania R. Vigouroux used, with success, a tuning-fork mounted on a sounding board, and set in vibration with a fiddle bow. The application of the fork to the supra-orbital region transmitted the vibration to the nerve and alleviated the pain.

Some time ago I read a paper on "Electro-therapeutics," and some gentleman present, taking me for an enthusiast, remarked that I was of opinion that electricity would cure everything. I do not admit such an imputation, but am convinced that much suffering can be alleviated and eradicated by the judicial administration of electricity. Massage, coming now into fashion, promises much, yet we must not expect it to replace other treatment. We ought to use it in appropriate cases only, and even in these in combination with other treatment, such as electricity, drugs, etc., at the same time placing the patient under the most advisable hygienic regulations.

SUGGESTIONS FOR THE MORE RATIONAL THERAPEUTICAL TREATMENT OF RESPIRATORY AFFECTIONS.[1]

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(*Continued from page* 135.)

I HAVE already said that narcotics encouraged the tendency to dyspnœal attacks, which are of such common occurrence in chronic bronchitis with emphysema or cardiac complication. I explained this by showing that

[1] [To the writings of the late Dr. Milner Fothergill, whose recent decease the profession still mourns, I must express my great indebtedness, not only for suggesting the line of thought I have endeavoured to follow in this paper; but also, as the readers of his works will observe, by the numerous quotations, for the actual words in which to express my meaning. I take the opportunity, therefore, at this stage to fully acknowledge this assistance in a general way, and thus avoid a repetition of references. For further information I would suggest a careful perusal of the following works of Dr. Milner Fothergill: "The Antagonism of Therapeutic Agents," "Chronic Bronchitis," "Handbook of Treatment," "The Physiological Factor in Diagnosis," and "Gout in its Protean Aspects."]

the "sentinels" were drugged, and were not capable of raising an alarm upon the first appearance of danger, but allowed the carbonic acid to increase to a greater amount than usual, before the respiratory centre was sufficiently aroused, thus making the attacks of dyspnœa longer and more painful. The effect of narcotics upon the higher centres is communicated to those at the base of the brain, and prevents the rapid performance of those respiratory actions which purify the blood and allow respiration to become calmer. One or two cases (collected from Dr. Milner Fothergill's works) will show their effects.

1. "A gentleman, who suffered from recent valvular disease, was sent to one of our famous health resorts. He had severe 'heart cough' (from engorgement of the lung with blood), for which his medical attendants there gave him opium. He grew worse, and they pushed the dose. He felt dying, and sent for a medical friend in town to bring him home 'dead or alive.' This gentleman tells me it seemed much more likely to be the former than the latter. The poor fellow was gasping for breath when put into the invalid carriage in the train, yet he slept three hours on the way, and awakened up to drink a glass of milk. Escaping from the influence of the deadly narcotic, the respiratory centre could carry on the respiration without the necessity for voluntary effort. He reached home alive, and what is more, has steadily improved since he got away from the range of the deadly sedative."

2. "This patient suffered from chronic bronchitis with emphysema; had long taken narcotics to induce sleep, under a physician as a private patient. He could not sleep without a narcotic, and then woke up constantly with an attack of dyspnœa during the night. I explained to him that, in my opinion, the attack of dyspnœa was due to the effect of the narcotic, and prescribed for him ammonia, nux vomica, and digitalis. After the first night he had no more dyspnœa, and could lie down and sleep like other people without feeling the need of a narcotic."

3. "A gouty gentleman, with a gouty heart, the hypertrophy of which was failing, with an irregular pulse, complained chiefly of difficulty of breathing, aggravated by flatulence. The breathing was persistently difficult, and in the night he was subject to distressing attacks of dyspnœa (uræmic), which tried him sorely. He also had much itching of the skin. He had acquired, a few years ago, the habit of taking some Battley's sedative for a very painful affection, and continued it, apparently not being able to abandon it without suffering. He always had some at bedtime, as without it he could not sleep. Seeing that it was clearly undesirable to stop the opiate, I put him on strychnia. In a fortnight the attacks of dyspnœa had entirely disappeared; the pulse was improved, and the œdema was reduced."

4. "A gentleman of literary habits, gouty, with corded arteries, irregularly acting hypertrophied heart, chronic bronchitis and emphysema, and great vesical irritability. He habitually took chloral at bedtime, and almost every night had an attack of dyspnœa. His nose, cheeks, and hands were of a blue hue, from the paralysis of his peripheral arterioles by the chloral. I commenced by giving him some ammonia, nux vomica, and digitalis. He improved very considerably, and all but lost his attacks of nocturnal dyspnœa. But the strychnia so excited his irritable bladder centres that it had to be stopped, and belladonna was given in its stead."

5. "A patient was taken into the West London Hospital with emphysema and aortic stenosis. In spite of rest, digitalis and ammonia, he was liable to attacks of dyspnœa, which had come on since his admission into hospital. On searching for an explanation it was found that the house-surgeon had benevolently prescribed chloral for the sleeplessness complained of. This was at once stopped, and the attacks of dyspnœa never returned."

These cases will illustrate the dangers to be avoided better perhaps than any words of mine; but I would particularly direct attention to case 3, where, though the narcotic was continued, its depressant effects were counteracted by the strychnia. That it is occasionally necessary to give one or other form of sedative for the purpose of securing rest, or allaying pain or cough, or both, is admitted; but the drug used must be combined with atropia or strychnia to prevent its depressant effects; either the hypodermic use of the combination already spoken of or in the form of draught, pill, etc. The bromide of ammonium is free from the dangers attached to opium or chloral, and might be tried. But, before prescribing any sedative whatever, I prefer to try the effect of a medicinal dose of alcohol, not taken for its stimulant but its narcotic properties, about two ounces or so, according to the condition of the patient. The greater the respiratory embarrassment the greater the danger from narcotics. In his work on asthma, Dr. Thorowgood, in speaking of complicated asthma, says, "Sedatives at night do not interfere with other remedies during the day; but it is well not to be in too great a hurry to resort to them, for it is not uncommon to find such a medicine as nux vomica overcome spasm, and give the patient a better night's rest than anything else that has ever been tried in the way of an anti-spasmodic or sedative."

In my opinion the bulk of our patients suffering from chronic bronchitis, with emphysema or cardiac complication, who are subject to attacks of dyspnœa coming on when at rest, and especially during sleep, will derive most benefit from the administration, *regularly*, of belladonna or nux vomica, ammonia and digitalis, according to the proportionate amount of influence upon the dyspnœa from pulmonary or cardiac causes. If the cardiac element preponderate, nux vomica and digitalis must be given; if the respiratory embarrassment is due principally to pulmonary conditions, then ammonia or belladonna; but in both forms, nux vomica is highly beneficial. For the purpose of relieving the attack, Hoffmann's anodyne (sp. eth. sulph. co.) in ʒ ss. or ʒ i. doses is very useful; and a large warm poultice over the heart in cardiac cases wonderfully assists the labouring right ventricle. In more severe cases, the hypodermic injection of a combination of morphia and atropia has proved very successful in my hands.[1]

Since failure of the heart is so common a cause of death in chronic affections of the respiratory organs, the use of drugs which shall stimulate the heart, and at the same time

[1] "Treatment of Dyspnœa in the Emphysematous by the Elastic Respirator."—Dr. Bazile Féris (*Bull. Gen. de Thérap.*, August 15th, 1883), considering that dyspnœa in emphysema is produced by loss of elasticity of the alveolar walls, the lungs being hence kept in the position of inspiration, has designed an apparatus to facilitate expiration, and thus restore to the lung its lost elasticity and abolish the dyspnœa. The apparatus designed is extremely simple, and can be easily worn. It resembles exactly a double hernia truss. From a pad situated between the shoulders, the two limbs of the truss pass round under the arm-pits to the terminal pads in front, which are rather larger and thinner than those of a hernia truss. Light straps passing over the shoulders keep the pads in position. The parts at which these pads should be made to exercise pressure are the least resistant parts of the thoracic walls, usually the upper and anterior part of the chest, over the cartilages and the ends of the ribs. The first effect of the pressure

give power to the feeble respiratory act, is highly necessary, and from none other do we meet with better results than from belladonna and nux vomica.

When speaking of the embarrassment of the respiratory function, it may be remembered that I drew attention to the connection existing between it and the action of the skin, as noticed in the profuse sweats of phthisis, and remarked that if the patient did not sleep much he did not sweat. I also showed how this cutaneous secretion seemed to come to the assistance of the lungs, and quoted Carpenter and Hermann in proof of this. At the same time I mentioned the fact that if a phthisical patient got a narcotic to induce sleep, the sweatings were profuse in proportion as the sleep induced was profound or not. If we look upon the perspiration as being vicarious in its nature, at first sight we might suppose it would not be a rational procedure to interfere with it; but I showed that it was a most expensive way of assistance, because the loss of the valuable blood-salts in the excessive secretion from the sudiparous glands enfeebled the already weakened system, and suggested that a more advantageous plan would be to do away with the necessity for this vicarious action of the skin by stimulating the respiratory function. The treatment of sweating by atropine certainly does this, though perhaps its administration is not effected with this object in view. Atropia is known to produce a direct influence upon the sudiparous glands; but when given in phthisis, I imagine its action on the respiratory centre is the chief way in which this particular good effect is produced, by doing away with the necessity for cutaneous action through its stimulation of the respiratory centre, making the act both stronger and deeper.

From a great many clinical observations it seems to have been agreed upon that atropia is decidedly more beneficial than other remedies—such as oxide of zinc, agaricus, picrotoxine, etc.—for the profuse perspiration of phthisis, and probably its superiority over these named drugs is due to the action just mentioned. There are undoubtedly many other questions connected with the treatment of the various complications associated with chronic bronchitis, as well as the functional imperfection of the respiratory act met with in cases of primary cardiac disease, which might with propriety come under discussion here; but many of them, upon reflection, will be found to fall into the category of some of the more prominent symptoms of dyspnœa we have just considered, and their treatment will, as a general rule, be found to come within the compass of the remarks already made. Some, no doubt, must be treated according to the indications presented by individual cases; still, the principles I have endeavoured to lay down will be worth bearing in mind, and will serve as useful points, the relation of which to almost all cases cannot be over-estimated.

I concluded my first part with a few remarks upon whooping-cough; and having then somewhat fully discussed the indications upon which our treatment is based, little is left for me here but to particularise some of these indications. Opinion is still somewhat divided upon the etiology of this affection, but the latest authority upon the subject to which I have had access—viz., a prize essay, to which the Medical Society of London awarded the Fothergillian Gold Medal for 1881, by T. M. Dolan, F.R.C.S. Ed.—is decidedly in favour of the germ theory. The reasons which the author gives for including whooping-cough among diseases having their origin in one of the many forms of germ, are: (1) It is simple; (2) it is in harmony with ascertained facts; (3) it explains many of the phenomena; (4) it has been, and may be, verified. But as I am more interested here in considering the treatment, rather than the pathology or etiology of the disease, I would refer my readers to the essay just mentioned, when each one can judge for himself of the respective value of the statements made by the author.

At present, the evidence for the germ theory is so favourable as to have convinced my mind; and as I stated in my first part, we ought to look for most successful treatment to follow the use of some of the so-called germicides; but I am decidedly of opinion that in this affection—as well as others in which the germ theory is almost unanimously accepted, for instance, in typhoid fever—the alterations in function or structure of certain organs through which the disease manifests itself are to be looked upon as points of interest in the treatment, in addition to the *fons et origo mali*. The old adage, "Remove the cause, and the effect will cease," is scarcely applicable in its integrity to some of the diseases in the class mentioned. In typhoid fever, for instance, the effects of the introduction into the system of the bacillus are so considerable, involving, as they do, not only functional, but structural changes, it would be sheer folly to continue an anti-zymotic treatment alone. We treat the manifestations as well as the cause, and in doing so are rewarded with correspondingly greater success. Giving sulphites, etc., without paying attention to such food as may be assimilated easily, and may produce the least possible disturbance of the ulcers of the ileum, or neglecting the hæmorrhage resulting from these ulcers, would surely be condemned as irrational and unscientific. So, in the treatment of whooping-cough, I hold that the introduction into the body of a *contagium vivum*, whatever it may be, induces a catarrh of the respiratory tract, with hyperæsthesia of the terminal ends of the nerves supplying this tract; so that slight causes induce paroxysms, which paroxysms are the result of the nervous excitability consequent upon the multiplication in the system of the *contagium;* but that these paroxysms, when established, may be kept up by the nerve irritation alone is proved by their recurrence during convalescence, or even after, by exposure to cold, etc.—a mere trick of the nervous mechanism, falling back from custom into its late habit. When once established, they may be retained, or recur from other causes than those upon which they were dependent for their origin. If, then, we find a catarrhal condition of the respiratory tract associated with intense excitability of the nerves supplying it, rendering nervous explosions liable to occur from slight causes, a treatment which combines a sedative of this nervous irritability with that of a germ-destroying agent might be looked upon as one most likely to produce the best effects. This theory is, I think, supported by experience.

But theorising abstractly is very easy, compared with the best treatment to be adopted in an epidemic of whooping-cough where our theories are ruthlessly discarded. We seldom find any disease, or class of diseases, run a course such as is so precisely laid down in our text-books. We

is to drive the air out from the chest, thus aiding expiration. Inspiration follows naturally, the inspiratory muscles being increased in volume. Tracings show increased movement of the chest, when the apparatus is worn. The cases in which M. Féris has tried his respirators have been relieved of their dyspnœa in a remarkable manner. The benefits conferred can be confirmed by experiments with the spirometer, the volume of air respired being found to be nearly double that breathed without the apparatus (*London Medical Record Report*, 1862, January 15th, 1884).

must be prepared for modifications, for complications, and other occurrences, which will upset the theories foremost in our thoughts when we first began the treatment of an epidemic; and it is these modifications and complications that we have most frequently to treat medicinally. I dare-say one-half or two-thirds of all children suffering from whooping-cough pass through it with nothing more than domestic treatment, which frequently can hardly be dignified by the name medicinal; so that we may assume the tendency is to spontaneous recovery, provided due care be taken to prevent the catarrhal condition of the respiratory tract passing on to something more serious. That there is no such thing as a specific for whooping-cough can be easily proved by the numerous remedies which have been tried with but a varying amount of success. I think our proper consideration of the influence of the effects of constitutional diatheses, hygienic surroundings, carefully selected food, and times for feeding (the latter being most important), and the presence or absence of complications, will be our safest guides to therapeutic measures. Some require little or no treatment, others tax all our skill to preserve life when a complication such as capillary bronchitis is found co-existing; and not unfrequently the most persevering therapeutic treatment, combined with the greatest ability in wielding our weapons of defence, is alike useless, and our patient sinks. According to the reports of the Registrar General, 109,454 deaths were registered from whooping-cough in England and Wales from the year 1860 to 1869. I am far from laying the blame of such a high death-rate to the charge of the profession. I am quite aware that a great many of the deaths are due to the ignorance and thoughtlessness of the friends; but I do think that some definite plan of treatment, based on broad lines, so as to include the chief complications, might be laid down, instead of the indiscriminate methods of treatment now in vogue. My readers will pardon me if I attempt to lay down such a line, founded on the indications (mentioned above) of diathesis, hygiene (including food), and complications.

1. *Diathesis.*—We are all thoroughly conversant with the immense influence exerted by diathesis upon acute diseases in particular. Perhaps this influence is most marked in those affections involving the respiratory organs. It not unfrequently decides whether a simple catarrh shall pass off entirely in a few days, or be the starting-point of that scourge of our land—phthisis. In whooping-cough we meet with the constitutional *versus* the local condition. An attack in a strong healthy child, free from all taint of diathetic disorder, passes off with no residuum. The catarrh remains, as such, until recovered from; but in the case of a well-marked strumous child we find an entirely opposite condition of affairs. He not only suffers more from length of actual attack, but the catarrh is more persistent—tends to degenerate or extend. This is owing, no doubt, to the feeble vital processes in which, from the growth and development going on, no surplus energy is available; and the newly-formed products are either of a low degree of vitality, or the absorptive powers are unable to remove effectually the products resulting from the sub-acute inflammatory condition. They remain and degenerate, or are re-absorbed and deposited in other parts, forming the nucleus of a destructive process.

In an attack of whooping-cough occurring in a child, the subject of some diathetic temperament, we should look not so much to the disease as to the individual, and use every means in our power to enable the disease to pass over without leaving permanent traces. In other words, we think not so much of the storm, but how best to enable the frail vessel to outride it, and to continue the voyage of life safely with no other injury than time with proper care will remove.

The medicinal treatment of such cases is greatly assisted by the exhibition of good food with satisfactory hygienic surroundings. It is during convalescence we look to the administration of those remedies known to influence the absorbents, which improve the condition of the blood, which provide the elements for healthy growth, and encourage the natural tendency for the return of those conditions existing previous to the attack, or possibly to improve upon them. Here we find the benefit of the syrup of iodide of iron combined with Parrish's syrup, cod-liver oil, the various preparations of malt, etc.

The due consideration of the diathetic tendencies of our patient during any acute disease, and more especially diseases affecting the respiratory organs, is apt to be underestimated. Sir James Paget, in a clinical lecture, delivered after his recovery from *post-mortem* poisoning, calls attention to this important factor both in diagnosis and treatment. He suffered from two distinct attacks of pneumonia during his illness, which he attributed to his diathetic tendency, and not to any septicæmic influence. He says, "Keep such facts as this in mind. They show that there is no disease so specific but that its signs may be confused or complicated with the things that are peculiar to the patient. . . . . This is not a mere question of doctrinal pathology. It is among the first necessities for success in practice that, in the several phenomena of a disease observed in any patient, you should be able to estimate what belongs to the disease, and what to the man. A farmer may as well expect success if he sows his fields without regard to their soils, or to the weeds that may 'of themselves' come up in them, as one of us may expect it if we treat diseases without exactly studying the constitutions of those in whom they occur" ("Clinical Lectures and Essays," 2nd edition, pp. 336-7). In the same work, at p. 401, the essay on the study of constitutional diseases carries the argument still further, and will amply repay careful perusal. In a recently published work entitled "The Pedigree of Disease," at pp. 21 and 22, we find similar observations from another of our great leaders: "There can be no question whatever as to the reality of the difference between individuals, nor any doubt as to the importance of the recognition of those differences by the medical practitioner. By far the commonest error of the prescriber, and one which most interferes with his success, is the easy-going habit of regarding all persons as alike, recognising differences only in their diseases; or, to put it in other language, of ignoring the predisposing causes and taking account only of immediate ones. The farmer who would succeed in his pursuits must not content himself with making sure that he has sown good seed, and according to the most approved methods; he must go further back to take knowledge of the nature of the soil with which he has to deal, of the crops which it has previously borne, and of the manures which have been used. It is much the same with us in the diagnosis and treatment of disease. In addition to the primary or exciting cause, which is of paramount importance, we have various other causes, which may perhaps be conveniently classed together under the term 'contributory,' since they contribute to control and modify final results. Amongst these, temperament—the original vital endowment of the

individual—is unquestionably a real force, and one which we would most gladly recognise and estimate if we could."

2. *Hygiène.*—The infectious and contagious nature of whooping-cough is a good reason for proper precautions concerning unsanitary surroundings; but I am dealing rather with the individual, and wish to point out the direct benefits the patient receives from a thorough compliance with the laws of hygiene regarding ventilation, warmth, etc. An impure atmosphere, either from within or without, must be avoided. Hence the advantage of a good lofty room in an upper part of the house, free from the encumbrance of carpets, bedhangings, and superfluous articles of furniture. The temperature should be kept constant at or about 60°, while its atmosphere may be impregnated by some preparation with anti-zymotic properties—carbolic acid, terebene, thymol, eucalyptol, etc.—either by means of a steam or air atomizer, or by direct heat over a gas jet or spirit lamp. By so doing we prevent those constant changes of temperature which are so provocative of paroxysms, and we reduce their frequency and give the mucous membrance the best chance to recover itself.

I look upon the dietetic treatment of whooping-cough as one of the most important matters. To the strong, and still more to the weak, the administration of easily-assimilated and nourishing diet is of paramount necessity; and when vomiting is a marked feature the greatest management is sometimes required to secure the retention of a sufficient quantity. If a paroxysm comes on shortly after food has been taken, the food is almost invariably rejected. This is most likely to occur if the stomach contains any quantity. The best plan is to give little and often, and never to forget that *shortly after* a paroxysm is the best opportunity, for it has a chance of being absorbed before another occurs. The food must be such that the shortest time is required for absorption; milk with soda water, peptonised milk, beef tea, chicken soup, etc., are the chief articles which may be given. As a rule children take milk with soda or seltzer water readily, and when the other preparations are not at hand we can readily rely upon this.

3. *Complications.*—Upon the presence or absence of complications rests the significance of an attack of whooping-cough. In many cases due attention to the plan already laid down may prevent their appearance, or modify them to a large extent; but, unfortunately, either from ignorance or inability to carry out this plan, we find, only too frequently, complications appear, and to them, rather than to the disease itself, is the high death-rate attributable. Here, and I might almost say here alone, does our knowledge, and a proper use of our knowledge of therapeutics stand us in good stead. However unable we may be to combat and cut short the original malady, we certainly possess a marked power over the complications; and since to them we attribute the high mortality, to them we must turn our attention if we seek its reduction.

I have already gone over in detail the two most formidable complications, in the shape of capillary bronchitis and catarrhal pneumonia; others perhaps of greater frequency, but not so dangerous, remain to be considered.

The gastro-intestinal tract often becomes the seat of irritation, commencing with the gastric disturbance which accompanies almost every case; but the plan of giving milk with an alkali—such as soda, potash, or seltzer water—or with lime water, will frequently prevent this. If diarrhœa becomes serious, then small doses of hyd. c. creta, followed up with chalk mixture and catechu or logwood, is indicated.

Hæmorrhages are frequent, but seldom severe, unless the ulcer of the frænum linguæ be torn. They require, as a rule, but ordinary treatment. They depend upon the severity of the paroxysms, of which I shall speak shortly. Other means, besides medicinal, are to be found, which reduce the paroxysmal attacks, and none are more effectual than an agreeable temperature.

I wish now to say a few words upon the general treatment of whooping-cough. In many cases medicinal treatment is uncalled for, unless the paroxysms are excessively frequent, leading to loss of sleep, interference with nutrition, etc. I have already said of specifics we have none; but among the remedies used for alleviating the disease, we certainly possess some of great value. Here, again, a drug which I have so often brought under notice stands highest in estimation—viz., belladonna, or its alkaloid atropia, either alone, or in combination with oxide of zinc, as recommended by Dr. Steiner, of Prague. It may be given during the spasmodic stage, and pushed until the paroxysms are reduced in frequency. Drs. Meigs and Pepper, of Philadelphia, advocate its combination with alum, and Dr. Golding Bird speaks highly in favour of alum with conium. Niemeyer does not believe in belladonna, but in the method of sweating at the commencement of the disease. He gives potassæ carbonatis, and free administration of good diet. Amyl nitrite has been used, mixed with chloroform, as an inhalation, and $\frac{1}{12}$ gr. of cyanide of silver every two hours for three days. Dr. West advocates hydrocyanic acid. Chloral hydrate and croton chloral have been extensively used; but I would beg to call to mind the depressant properties of chloral, and recommend its use, only when the symptoms are free from much permanent respiratory embarrassment.

Bromide of ammonium is perhaps, on the whole, the safest sedative to employ, since its composition prevents it having too great a depressant action. When combined with atropia it is, in my opinion, the best treatment for ordinary cases. Quinine, or tinct. cinchon. co., is very useful; its tonic and anti-zymotic properties are alike good. Gelseminum sempervirens has many advocates. But with all the remedies mentioned, the chief difficulty is to know when they are most valuable. We may, to a certain extent, be guided as to the value of depressant or stimulant drugs according to the state of the breathing during the interval. This I have already mentioned in my first part, as follows:—"There seems every reason to believe that by a careful attention to the rapidity of the respiration, its depth, its character, whether actively spasmodic or gasping and laboured, the agent may be selected which will, with fair certainty, relieve the case in point. When there is excitement both of the respiration and the circulation—for they are so closely linked together, that any marked condition of the one materially influences the other—then there are good grounds for giving bromide of potassium, chloral, or morphia, together with those antispasmodics, musk, camphor, etc., of which we have as yet no certain knowledge from experiment, but simply the legendary lore of a far-reaching empiricism. Where there is evident excitement in the respiratory centre, these depressants may be chosen with much probability of success. On the other hand, when there are evidences of more or less enfeeblement of the centres, and the respiration is laboured and slow, or shallow and rapid, and still more if both shallow and slow, then the opposite class of

agents must be preferred" ("Antagonism of Therapeutic Agents," p. 105).

This brings me to the conclusion of a subject which it was my intention to complete in a single paper, but the personal profit and pleasure arising from the detailed study of it must be my apology for its extension. I can only hope that the theories which have been enunciated, and the opinions which have been expressed, may be criticised in as fair a spirit as that in which they have been laid down. It has been my motive to summarise the elements of our present knowledge on the subject, in order that the practical application of the same may result in an improvement in our methods of treatment of respiratory affections, and other disorders attended with embarrassment of the respiratory act, and bring about a wholesome change in the prescription for them of narcotics (without the fullest consideration)—a practice fraught with the greatest danger, and having attached to it the gravest responsibilities, both moral and professional.

THE OPERATION OF EXCISION OF THE KNEE-JOINT.

By William Thomson, M.A., F.R.C.S.,

Surgeon to the Richmond Hospital, Dublin; General Secretary Royal Academy of Medicine in Ireland, etc.

Observations which have recently been published indicate a very strong desire to avoid the operation of excision of the knee-joint in cases of tuberculous synovitis. Until a few years ago the results in England and Germany were certainly not encouraging. In Germany, of 104 cases, collected by Knoll, and published by Volkmann in 1876 (Sydenham Society), fifty-two died; exactly fifty per cent. England could only show recoveries to about seventy per cent.; and the impression made by these bad results still no doubt exercises an effect opposed to the operation. The results of to-day are, however, an immense improvement on those just quoted. In 1869, Swain's figures showed 472 operations with 116 deaths; but in 1880, Holmes published a list of 245 collected cases with twenty-one deaths directly from the operation, four after amputation; while forty-seven were set down as having failed and were, most of them, subjected to removal of the limb. In Dublin, however, excision has been a much more successful operation than it appears to have been elsewhere. In my own hospital I have only known one death to occur from the operation during the fifteen years for which I have been surgeon, and we have had over forty cases. Many of these were done without the accurate care of modern antiseptic surgery: so that we can hardly realise what are the causes which elsewhere appear to have produced such fatal results.

In this paper I propose simply to state in detail the manner in which we deal with cases requiring excision, because our recoveries for the past few years have been extremely rapid, and so far as preservation of a useful limb goes, uniformly successful. The parts are carefully shaved the day before, and well washed with soap and a brush. For two hours before operation a swathe of lint, wet with weak carbolic acid lotion, is applied to the knee, and for some distance above and below. On the table there is another ablution which ends with a free application of ether.

Incision.—The limb is then Esmarched or not, according to the views of the operator, and an ordinary horse-shoe incision made, beginning and ending as far back as possible over the condyles, and dividing at the first sweep the ligament of the patella, and all other soft tissues. The patella is next removed, and the joint is freely opened by division of the crucial ligaments. The most difficult part of the operation now begins, and that is, thorough removal of all the pulpy tissues. These are freely dissected out with scissors or knife, and the pouch which extends up under the quadriceps tendon is followed. If necessary, the flap is divided by a longitudinal incision so as to make all plain. This does not in the least add to the risk of the operation, and it enables us to make a thorough search into every crevice.

Section of the Bones.—When all the diseased soft tissues have been removed, the section of the femur is made, and then of the tibia. The portions removed depend upon the extent of osseous disease, but if it is possible the epiphysary lines are not encroached upon in young subjects. If there are any soft spots, these are gouged until firm bone is reached. In a case which was recently operated upon by my colleague, Mr. Thornley Stoker, the softening passed so far down into the head of the tibia that it was resolved to make a counter-opening in that bone two inches below the section. The hole was thoroughly scraped out, a drainage-tube was introduced, and the case did well. The saw used is a broad bladed one, with movable back, and it is used from before, backwards, towards the popliteal space, the vessels being protected by a flat retractor. In my early excisions I used Butcher's saw, but I have long since ceased to employ it because of the narrowness of the blade. It is not always easy even with the saw now used to make sections which will allow the bones to fit well when brought together, but with Butcher's saw it was almost impossible to get a level surface, and frequently it was found necessary by further "dressing" to remove the undulations left by the blade upon the divided bone. At this stage there must be a renewed search for diseased parts in the soft structures. When the thigh is brought into the upright position, the leg hangs from it with the sole of the foot on the table. An assistant puts his closed fist into the popliteal fold, and in this way makes tense the tissues which are lying exposed to the operator. Then any pulpy material is clipped away, care, of course, being taken not to expose or wound important structures.

Bleeding.—Every bleeding point must be carefully secured, and the wound made as dry as possible, especially if the limb has been "Esmarched." In the latter case the reactionary hæmorrhage is often sharp, and the surgeon who wants to avoid opening up the wound in a few hours will not grudge the tediousness of this stage. Some of the most troublesome vessels are those in and about the margins of the periosteum; and it will be found that these are most rapidly secured by passing a gut suture under them with a needle, and so tying them. Next there is a thorough irrigation with an antiseptic solution, and all visible tags and débris are removed.

Drainage.—When the divided bones have been found to fit properly, the next step is to provide for drainage. The carrying of the first incision as far back as possible is not quite enough. When the bones have been laid in position there remains a pocket formed by the tissues of the popliteal space, lying on a lower level than the wound-opening at the sides, and into this more or less blood and serum must filter. In my earlier cases I was satisfied with simply leaving the extremities of the skin-wound open;

later on I passed a drainage-tube across the popliteal space immediately behind the bones, withdrawing it on the third day. Afterwards I tried the method of cutting a narrow triangular slip from the margin of the skin-flap, of equal length on either side, leaving the bases however attached. These were tucked in behind the bones, and their extremities were stitched together with catgut, thus helping to keep open a channel from side to side. The result was not as satisfactory as I was led to expect, and I then adopted the practice of draining directly backwards through the popliteal space itself. This method was recommended by Mr. Jonathan Hutchinson, so far back as 1856 (*Medical Times and Gazette*, March 15th), but it has not been generally adopted. A paper, by M. Lucas Championnière, in the *Revue de Chirurgie*, reporting eleven cases of excision in which he employed this method, induced me to try it. There can be no doubt that it is the most rational plan for thorough drainage, and it is the best. The danger of wounding important vessels or nerves is not great if ordinary care be taken. A transverse section of the femur through the condyles shows that the popliteal artery and its accompanying nerve and vein lie in a position practically corresponding to the inter-condyloid notch, and that there is, therefore, ample room on either side of them to make a drainage opening backwards.

For the accompanying outline I am indebted to Professor Cunningham, of Trinity College, Dublin. It is taken from one of his frozen sections, and shows accurately the position of the vessel in relation to the portion of the femur which is actually divided. I have found that the finger tip makes an excellent guide, along which an ordinary scalpel may be slowly passed backwards at one side or other of the artery. Through this opening a drainage-tube is passed, and is retained for a couple of days. After that it may safely be removed.

If it has not been found necessary to divide the flap in pursuit of diseased membrane, it is always well to make an incision through it, corresponding to the space left by the removal of the patella. In practice I have found that the sides of the flap adhere, thus allowing a quantity of serum to collect in the space just mentioned. If an opening be made, and a drainage-tube inserted, it will prevent this accumulation, and will aid in the rapid adhesion of the anterior flap to the surface beneath it.

The tubes having been inserted, the bones are placed in position, and the skin wound is secured. This will be best done by short lengths of continuous suture, say an inch and a half. The material to be used should be preferably fine silk. It is less irritating than catgut, which is so apt to cause small ulcerations at the openings into the skin; it holds for a practically unlimited time, and there is no danger of ripping open the wound by absorption of the stitches as there is when gut is used. When the superficial parts are firmly united, the stitches can be easily withdrawn.

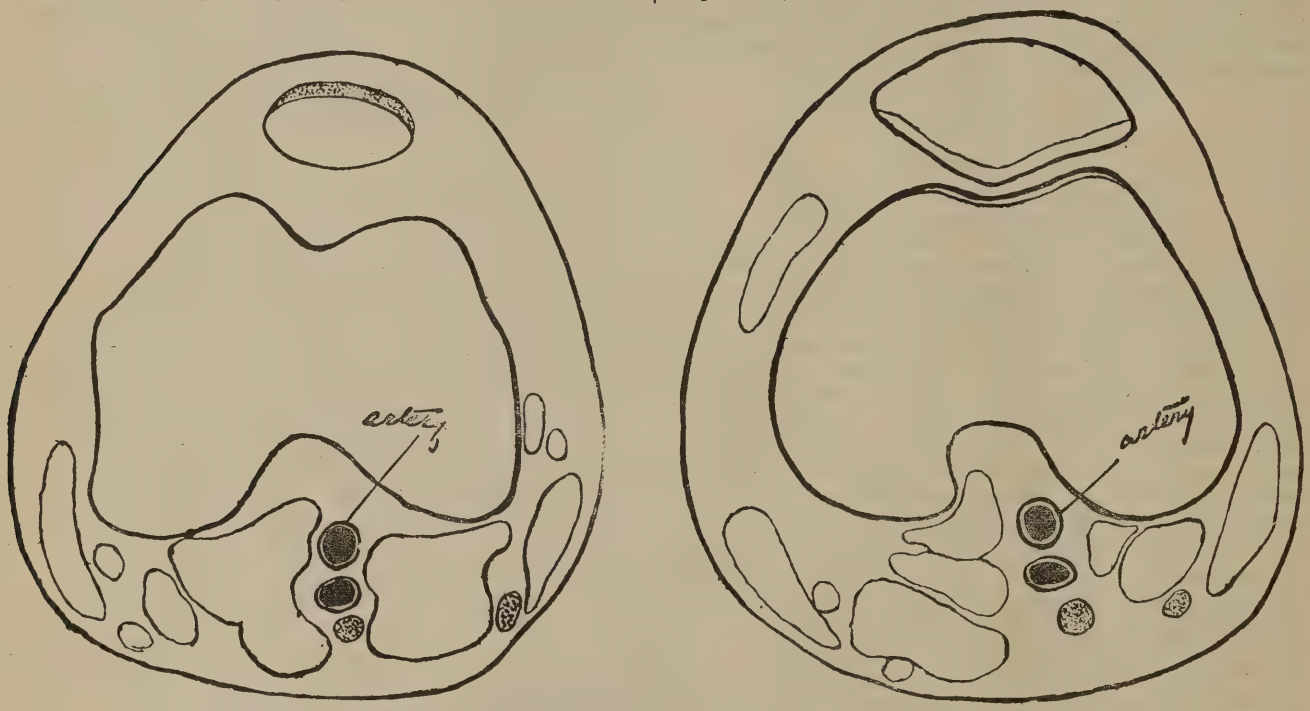

Fig. 1.—Transverse sections through the femur (left limb, upper surface of cut toward the observer).
1. Immediately above the joint.
2. Somewhat higher—
Artery nearest to the bone;
Vein intermediate between artery and
Nerve, which is superficial.

Fixing the Bones.—The great difficulty met with in the after treatment of cases of knee excision, is the keeping of the ends of the bones in just relation to each other. The tendency of the femur to tilt forward so as to lie at a higher level than, or somewhat anterior to, the divided surface of tibia, is often hard to overcome. Moreover, there is always much pain caused by every movement of the divided

surfaces one against the other; healing is delayed by the want of rest, and the liability to suppuration and its consequent risk is greatly increased. Mr. Hayes, of Dublin, has devised a splint in which the portion which supports the leg is thrown forward about an inch by a step, so that the lower part of the limb may be raised somewhat to meet the natural tilting of the femur. Others have suggested suturing with silver wire, silk or catgut. My experience of these last, however, is that they do not afford the quiet solidity and firmness which are essential, and I have therefore adopted the plan of Mr. Thornley Stoker, my colleague, who applies to it the term "dowelling." At the meeting of the Royal Academy of Medicine in Ireland, March 18th, 1887, Mr. Stoker read a paper describing three cases in which he had himself used this method. Curiously enough, a paper by Mr. Morrant Baker was published in the *British Medical Journal*, of February 12th, on the subject, and Mr. Baker has used pegging since 1872. Mr. Stoker was not, however, aware of the practice, and as his proceeding ought to be fully known, I will give his own description of it.

Fig. 2.

Thornley Stoker's "Dowel," about half size.

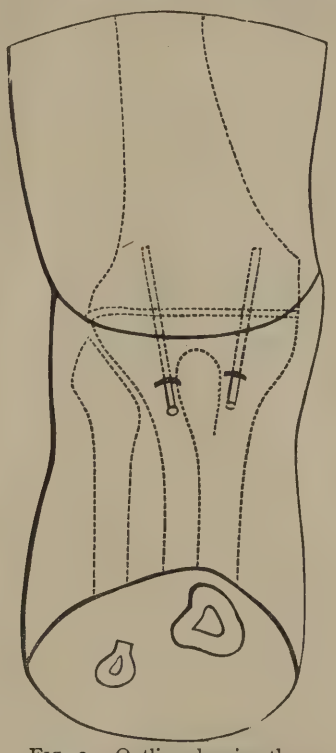

Fig. 3.—Outline showing the "dowels" pinning the bones together

"When the wound is ready to be closed, having punctured the skin on each side of the tubercle of the tibia with a tenotome, I insert a steel awl into the bone at each of these points. The instrument is made to enter the tibia in a direction upwards, backwards, and outwards from the middle line of the limb. It is only pushed into the bone for about three-quarters of an inch, so as to penetrate its compact covering and give the proper direction to the silver dowels afterwards used. A silver wire a shade larger in diameter than the awl, having its end filed to a chisel-shaped edge, is then pushed into each perforation, and the femur, being held in forced relation with the tibia, is made to penetrate the upper bone as far backwards as the compact covering of its popliteal surface. The dowels may be either made to diverge or approximate as they pass upwards. The former direction is best, as they will, when so introduced, give greater fixity and freedom from rotatory motion than when crossed, as directed by Mr. Morrant Baker. They should not be parallel, as they then offer little resistance to vertical displacement. In the cases of very young children, one dowel, introduced in the middle line below the tubercle, and directed upwards and backwards, will be found sufficient. It is important that the dowels should be a little larger than the awl, so as to fit tightly. The size most suitable is No. 14 Birmingham wire gauze—that is, about the calibre of a French No. 7 bougie. The soft edge of the silver passes readily through the cancellous tissue, but with difficulty through the compact layer which covers it; and therefore, with a view to avoid entering the popliteal space, silver should be preferred to the steel recommended by Mr. Morrant Baker. It seems to me to be also preferable to the bone pins recommended by Mr. Howard Marsh, more easily introduced, with less injury of the cancellous tissue, and less liable to give way under any sudden strain. The dowels are then cut half an inch from the skin, and their ends included in the dressings."

The pins are allowed to remain in for about three weeks, and are then removed. I do not cut off the ends. The slightest traction withdraws the dowels, and they can be used over and over again. The surface of the silver remains perfectly smooth, and no irritation whatever has been caused in the cases in which I have used them.

The great advantage of this plan of fixation can hardly be realised until it is put into practice, especially by those who have experience of knee excision under the older methods. The patients are free from the painful startings which follow every jar of the divided ends of the bones together, they sleep tranquilly, and I have seen them sitting up in bed on the third day after operation without being in the least disturbed by that position. A German surgeon (E. Hahn) uses steel nails, which are driven into the bones with a hammer, and are removed some weeks later.

The Splint.—In my earlier cases I employed Dr. Heron Watson's method; and in the *British Medical Journal*, of January 28th, 1882, I gave the reasons which induced me to adopt a simple modification of his splint. I found that a slip of strong hoop iron in front, with a loop over the wound, and a similar slip behind, allowed the plaster bandage to fit closely to the limb, and prevented painful movement of the bones. It was my habit to fix the splint with ordinary bandages for the first twenty-four hours, so as to permit the opening up of the wound in case of hæmorrhage, and then at the first dressing to apply the plaster-of-Paris. A little experience showed me that the limb rested easily, and was firmly held by the ordinary bandage which, including the hoop iron splint, could be closely applied to the limb. I then determined to try a case without any plaster whatever, and for some years I have not used plaster-of-Paris at all. My colleagues observe the same practice, and it has been uniformly satisfactory.

The splint I now use is made of strong hoop iron about 1½ inches wide. It is easily bent into any shape, and it is usually prepared by my resident pupil. The posterior splint is plain, and extends from the gluteal fold to the foot. At the tendo-Achillis it must be bent downwards, so as to avoid pressure, and the continuation is brought up along the sole of the foot. It gives greater support, and

enables us to bandage and fit the foot to it. The anterior splint extends from the groin, over the thigh, is then shaped into a roomy loop so as to give space for dressing, and is continued downwards towards the foot, being finally shaped to lie easily upon the instep. These splints are carefully padded beforehand, and the wadding is fixed in position by a spiral bandage. The dressing should be applied in front, and then be carried down on either side as far as necessary. The splints are then applied, and are fixed with which I am acquainted, and it has the merits of cheapness, simplicity, and thorough efficiency." I observe that Mr. Macnamara, in his last edition of "Diseases of Bones and Joints," 1887, quotes from Sir W. Stokes' paper a description of the manner in which the splint is made and applied, but as he was unaware of my communication already referred to, I may take this opportunity of making it quite clear that whatever merit there is in the method is mine.

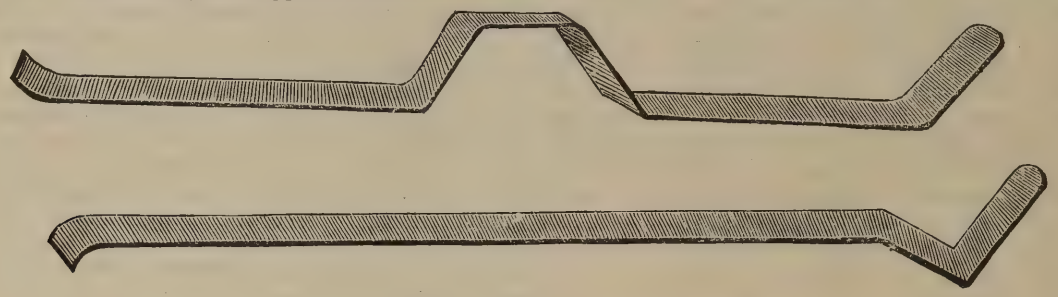

Fig. 4.—Mr. Thomson's Splint for Excision of the Knee.

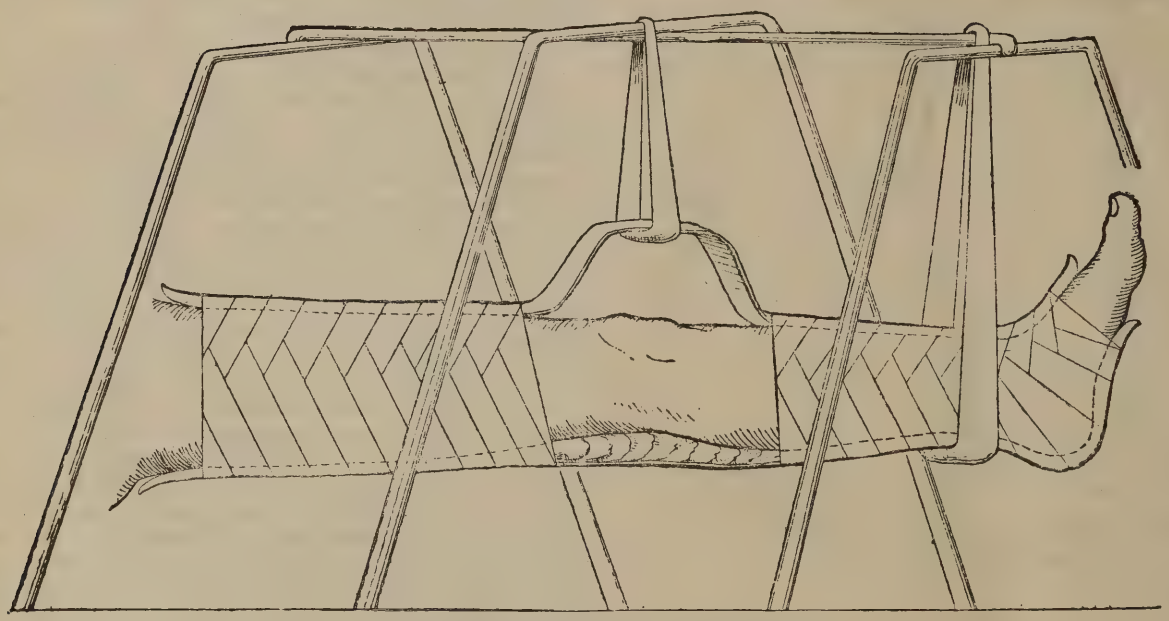

Fig. 5.—Limb with Mr. Thomson's Splint applied.

by an ordinary bandage, and if this is properly employed it will not be necessary to readjust it for some weeks. The last thing done is to pack the popliteal space on either side with iodoform wool, taking care, of course, that the drainage tube delivers all fluids into antiseptic dressing. When the patient has been removed to bed, the leg is swung from a strong cradle. Two turns of an ordinary bandage are passed through the loop, and fixed to a bar of the cradle above, and another bandage is passed under the splint just under the ankle, and also fixed to a bar in the cradle. This permits the patient to make some movement if necessary, and, as I have already said, he is usually able to sit up in bed on the third or fourth day with a bed-rest, suffering no discomfort.

At the Brighton Meeting of the British Medical Association in 1881, Sir W. Stokes said of this plan, "I consider this method of fixing the limb far superior to any others

If the surgeon using this splint should desire to prevent any shifting of it in a restless patient, a very simple and effective arrangement will be found in the following: A piece of thick felt is procured, such as is used in poroplastic jackets, but without any stiffening material. For the leg it should measure about six inches by ten. The posterior splint is laid on the central line of this, the greater diameter being transverse. A few holes are bored through the felt with a bradawl along either margin of the hoop iron. Then a piece of copper wire is passed from behind through one hole, across the iron, and back through the corresponding hole. The two ends are then twisted together. The other holes are treated in the same way, and the piece of felt is firmly secured to the iron. Another piece of felt is arranged in the same way high up on the thigh. It will be found that these soft felt straps adapt themselves closely to the limb, and they can be fastened in front by a lace passed

round a few "eyelet" hooks. The bandage is then applied over all, but the felt pieces will give increased fixity and prevent any movement of the under splint. Moreover, when the patient leaves bed it will be found to give ample strength and support to the limb; but at that period, of course, the foot-piece is dispensed with.

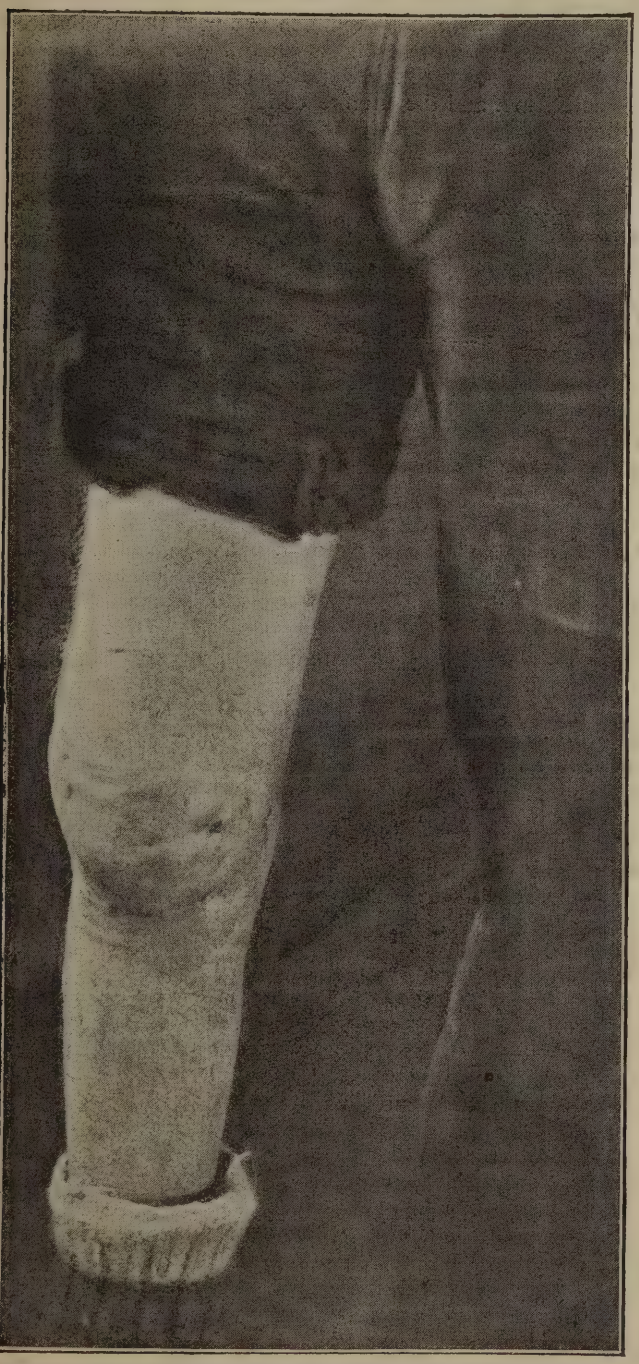

Fig. 6.—Seven Weeks after Excision of Knee Joint (Photograph).

The Dressings.—The first dressing is changed in twenty hours. The drainage-tubes are then removed, and subsequent interference is regulated altogether by the indication given by the temperature chart, or the escape of fluid. The dressing usually employed is, first a couple of folds of alembroth gauze, and over this a thick pad of Hartmann's wood wool. The stitches may be removed in a week or two according to circumstances, and the skin-wound is usually then found healed, except at one or two points. The dowels are taken out at the end of the third week, and the patient may leave bed in about six weeks, with a light splint to give security. Of course, there are cases in which the course is not so rapid as this, but I speak of what are our expectations, based on our more recent experiences. I have, at present, a patient who began to walk in the seventh week.

As to the general results of excision in the Richmond Surgical Hospital, they have been most satisfactory. We have had our troubles in the days before antiseptic surgery was as fully developed as it is now, but we have to deplore the loss of only one life. I have now done fifteen excisions of the knee. In one case the patient was a young lady, living 126 miles away, who was terribly prostrated by hectic, and in whose case amputation would not be permitted. Six weeks later it became necessary to remove the limb in order to save her life, and she recovered. In another case I amputated because the patient developed symptoms of tuberculosis in the right lung, and she also recovered. Compared with the reports of cases twenty-five years ago, there are few operations which have made more way in the direction of safety and utility than this; and in the cases in which the joint is irretrievably diseased, I believe it will give results better than any other. It is, however, important to operate sufficiently early, and not to wait in the hope of cure until the soft tissues are riddled with sinuses, and the bones have been extensively diseased.

THE USE AND ABUSE OF MASSAGE IN GYNÆCOLOGICAL PRACTICE.[1]

By Dr. H. Macnaughton Jones.

It is widely known that the therapeutic agent massage is largely employed at present in a variety of affections to which women are more especially liable; and, not only is this the case in regard to those affections arising from morbid conditions of the pelvic viscera, but the same may be said of a number of unhealthful states, due either directly to these pelvic derangements, or indirectly following as a consequence of them. From sources inside the profession of medicine, and from others outside its pale, the public, which in matters of medical fashion often leads the profession, has learned to believe in massage as a marvellous remedial measure, and as in the past, in other matters, so now in this, the patient and her friends suggest to the medical man the course of treatment he should adopt; or they often go further, and ignoring medical countenance and advice, prescribe this or that plan on their own responsibility. Truly, Mr. Public, once he is gratuitously mis-educated, becomes a veritable tyrant to that profession to which he pretends submission. Nor can we wonder at this vulgar assumption of little knowledge on the part of lay outsiders when we find such catering for the curious in matters medical as the periodical literature of the day supplies. We need express no astonishment if some contemporary periodical is,

[1] A paper read at a meeting of the Gynæcological Society on March 13th, 1889.

in the near future, laid under tribute for an article on "Electrolysis *versus* Mutilation," or "Keithism *versus* Tatism." One of the tests of medical eminence, and stepping-stones to popularity, is an article on some such quasi-popular subjects as "Massage in Neurasthenia," "Alcoholism and Insanity," "Worry and Gout." Then comes for patient a fashionable favourite, or distinguished politician, and then—well, anything.

Now it at times happens that a system or plan of treatment, in itself intrinsically valuable, and capable of most useful application, suffers materially from such vulgar handling. The unavoidable contamination with Charlatanism, educated and uneducated alike, so soils its utility that many refuse to believe that any good can come out of it. They dislike it, and cannot tell why. They do not allow themselves to inquire into its merits, or, rejecting the good and evil elements alike, lose the advantage which such an analysis would have afforded. So it has been with massage. The system has suffered from contamination. The art of the *masseur* has been interpolated with the avocation of the hotel manager, and a resultant of the two occupations is found in the divided spoils of both. Hence *masseurs* and *masseuses* have flooded the medical market, and so-called "homes" for massage are almost as plentiful in certain localities as pawn offices; and if we are to judge by the theory of "demand and supply" they should be nearly as remunerative. It is a fact not to be disputed at the present moment that in London a large number of women, after acquiring a superficial smattering of the most elementary medical knowledge, go about as electricians and *masseuses*, earning, after an investment of £5 in a course of lectures, or for other as-easily-obtained badge of knowledge, or even without this expenditure of money or trouble, incomes far larger than an M.B. of London University, or an M.R.C.S. can hope to acquire for several years.

How far the medical profession is right in handing over to, medically speaking, uneducated hands the practice of the art of massage is a question I do not care to discuss, but it is an open fact that highly qualified medical men all over London can be obtained for one-fourth of the sum that a better-class *masseuse* charges for a visit, and for discharging a duty certainly not more laborious or distasteful than, if as much so, as many of those obligatory on the medical practitioner.

Let us dispassionately and without prejudice consider how far massage is useful in gynæcological practice. In doing so I would ask you to enlarge your view of the "study of a woman" from the limited mental horoscope bounded by the ovaries and broad ligaments, and embrace in your contemplation some of those associated conditions which this study forces us to include. Permit me to illustrate my meaning by touching here lightly on the outlines of a case, which it is my intention, through its extreme interest from some points of view, to publish *in extenso* at a future time.

A lady consulted me about three years since. From the date of her previous confinement, three years before this, she had suffered from constant headache, the pain occasionally being of an excruciating nature. She had never, she said, been a single day without it. There was also present violent periodical menorrhagia. She was a most intelligent woman, and was by no means what would be described as of a neurotic temperament. She had been to several physicians. She had tried a number of remedies, including a hydropathic course, and had gone for change of air a few times. The bowels for some time were only relieved by enema. On examination I found a large completely-retroverted womb. I examined both her teeth and eyes for other causes of reflex headache. I discovered that she had a hypermetropic astigmatism of less than a dioptric, though she had an artificially-induced myopia from spasm of accomodation. All her imperfect teeth had been stopped, and she did not complain on percussion of any of them. Suffice it to say that this lady has been, on and off, under my care for the past three years, and that though her astigmatism was completely met and the uterine condition cured, the vertex headache persisted to the latter part of the past year. I may remark that amongst other remedies I tried the constant current, Charcot's metal discs, and a course of massage, all to no purpose. Again, eighteen months since, I had all the teeth overhauled without any result. Last year the teeth again began to pain. She had them attended to by a local dentist, and shortly after came to London for a course of head massage. Without going into details I may say that this visit resulted in the extraction of eleven teeth from the upper jaw, by Mr. Baly, of Harley Street, the discovery of exostosis and partial obliteration of the dental nerve canal in several of the teeth, and subsequent complete cure of the headache. The lady is now in the fourth month of pregnancy. I think this case teaches its own lessons without observation.

I may divide the consideration of this subject thus: first, I must make some necessarily brief and condensed observations on the physiological action of massage, and secondly, discuss how far these explain the therapeutical application of the art, and finally apply these facts to the practice of the gynæcologist.

I wish, however, to state that these observations bear more particularly on massage in which the patient is passive, including the labile interferences, either with the hands of the operator (beyond question preferable), or with rollers or muscle beaters, such as those of Klemm, used by some. Though it must be remembered that the calisthenic exercises and mechanical aids of what is popularly known as "the Swedish cure," and commonly associated with the name of Ling, can not be dispensed with in many cases. I allude to those cases in which we desire to avail of this method of localising and grouping muscular resistance and movements in associated action by more energetic and betrer distributed force than we can obtain by manual manipulation. Such cases, for instance, are those of muscle disuse, following injuries, atrophic tendencies after paretic states, muscle deformities, as in the various talipes, articular malpositions due to neuromimesis, injury, adhesion or muscular action; scoliosis; rheumatic sequences in joints.

There is then a second group of cases in which such mechanico-therapeutical means are invaluable—viz., patients of the neurotic type, often with indolent, phlegmatic, hypochondriacal temperaments, this includes the costive, fanciful, capricious, tea-drinking, romance reading, morbidly introspective class of woman—full of self. What is left of mental exercise resolves itself mainly into a game of shuttlecock between her stomach and her ovary. A little diversity in this amusement is invaluable, and she gets it in the periodically imposed calisthenics. Some of the energy, resolved into fat, is restored, or that lost to enervated brain and muscle-nerve is regenerated.

I cannot delay to analyse and compare the effects of the different kneadings, frictions, strokings, tappings or

beatings, known as pétrissage, friction, effleurage, tapotement. I must group these various methods of action under the general term massage, and even include with these manipulations certain flexions and extensions or movements that are of necessity often combined with them in practising massage. Yet the physiological fact must be remembered that the nature of the stimulus—its character and mode of application, applied to a muscle, influences not alone the kinetic energy of the muscle, but also the force and distribution of the reflex impulses. We do not get the same results with stroking, as we do with either vibration movement or tapotement.

With deep kneading we have a different result from that obtained from both of the former acts. Let us summarise, albeit very imperfectly, the more important physiological effects of massage on muscle, nerve, vascular distribution and lymphatic supply.[1]

Muscles.—The chemical and physical changes consequent upon stimulation of muscles and muscle action, which modern physiological research has established. (*a*) Generation and discharge of carbonic acid; (*b*) Absorbtion of oxygen; (*c*) Creation of lactic acid and other chemical changes in the muscle; (*d*) Probable slight increase in muscle temperature; (*e*) Slight alteration in bulk of the muscle, attended by changes in the blood supply, both in quantity and character; (*f*) Generation of reflex impulses; with regard to this effect it has to be remembered, as Foster remarks, that "a muscle, even putting aside the visible terminations of the nerve, is fundamentally a muscle and a nerve besides;" (*g*) Readier response to electrical stimuli after massage and probable electrical changes, during massage excitation in the muscle nerves excited; (*h*) An influence on unstriated muscular peristalsis.

Nerves.—Chemico-physical molecular changes in the nerve tissue, starting both sensory and motor impulses; these centripetal impulses affect the central ganglia and influence both automatic and reflex actions. The phenomenon of inhibition is manifested. Analgesia is produced by prolonged and continued pressure.

The Vascular Mechanism.—The main effects are to be seen in the peripheral arterial resistance. The peripheral resistance is generally lessened (at times may be temporally increased) by massage. This is principally due to the following effects: altered nutrition of parts, change in the peripheral vaso-motor control; reflex stimulation of the vaso-motor centres; altered blood pressure due to the presence of carbonic acid and loss of oxygen (according to Sommerbrot,[2] intra-bronchial pressure taking an important part in this action on the heart). These effects are manifested in altered blood pressure and arterial tension, primary diminution, secondary increase.[3]

The heart's beats may be influenced by (*a*) the local reflex affects on the skin and muscle, or through the abdominal nerves, during abdominal massage, from splanchnic inhibitory action; (*b*) by the alteration in the arterial pressure, either local or general, brought about by the massage. Such vascular changes are necessarily attended by a local determination of blood, by alteration in the velocity of the blood current, in the metabolic tissue changes, in the nutrition of the part massèed, in the comparative rapidity of the removal of excrementitious material. More especially important are such physiological effects if manifested in the case of the portal and renal circulations.

Lymphatics.—In deep massage of the extremities, or kneading, the centripetal flow of lymph in the tendon and fascia lymph vascular space is expedited. This will be the case also in the tendinous and fascial structures composing a great part of the abdominal wall; the processes of absorption and resorption are promoted; lymphatic glandular activity is excited. The same occurs in the more superficial lymph vessels, from stroking the skin and vibration movements. During deep abdominal massage a powerful influence must be exerted on the lymphatic vascular mechanism, and on the nature of the fluid in the lacteal vessels. This will result directly from the continued or intermittent mechanical pressure exerted through the abdominal wall, independently of the altered relations between the superficial and deep lymph currents and the blood vessels. It must also follow from the effects of massage on the portal circulation. I allude to the more rapid reception by the portal blood, of the products of digestion, which find their way into it. This temporary increased diversion of food elements necessarily influences the chyle and the tension of the lacteal vessels. Also in general massage, followed by abdominal, through the continued suction effects of increased respiratory movements and general (primary) diminished venous pressure the lymphatic flow is temporarily encouraged, while through the nervous influence on the abdominal vascular system generally, lymphatic absorption is promoted.

These physiological facts, necessarily modified by the local anatomical relationships, can be well applied to the pelvic structures in which we, as gynæcologists, are more especially interested.

We may correlate such physiological effects of massage with the more manifest physiological phenomena and effects noticed in its practice. In order that I may save time, I arrange these latter in tabular form.

1. Slight immediate changes in body temperature, these are not constant and vary with rare exceptions to the extent of a degree more or less, of this I have satisfied myself several times. There is occasionally a fall—this is not so common as a slight rise.

2. Decided increase as a rule in muscle nutrition and power of endurance, increase of muscle weight.

3. Restoration of reflex excitability in weakened muscles, and the improved association of reflex and automatic action.

4. Reduction of cutaneous and muscular hyperæsthesia, and relief of pain arising from reflected irritations in distant regions.

5. Increased effects of galvanism when used after massage, necessitating reduction in the strength of the current, and increased care in its employment.

6. Improved peristaltic action as shown in the case of the nonstriated abdominal muscles of the intestines, and the œsophageal muscles.

[1] *I desire to express my obligation mainly to the Classical Text-book of Professor Michael Foster in compiling this summary of the physiological results of the various experimental researches which bear on the effects of massage or gymnastic exercises. Also I have had, amongst other sources, special assistance from the excellent manual of Dr. Joseph Schreiber, translated by Dr. Mendelson, of New York (Young Pentland, Edin). Another admirable manual in the English language is the Practical Treatise on Massage, by Douglas Graham, of Boston (Wood & Co., New York).*

[2] Sommerbrot: ueber eine bisher nicht gekannte wichtige Einrichtung des merschlischen organismus. Tübingen, 1884.

[3] See Schreiber's "Manual of Treatment by Massage," translated by W. Mendelson, M.D.; page 88. New York.

7. Results of improved nerve changes, as we find in the case of muscle. These are shown in restored nerve function, in healthier brain action, in the production of sleep, in alleviation of perverted and distorted mental symptoms.

8. The improvement in the tone and character of the pulse under massage treatment; the good influence on a sluggish circulation, as exhibited in the effect on cold extremities; the same result in cases of rhythmic irregularity of heart due to torpid hepatic circulation, flatus and abdominal obesity. The occasional attack of syncope, which I have had in two instances, is the effect of either a reflex inhibitory stoppage of the heart's beat, or a syncope arising from rapidly lowered arterial pressure. In one patient, vascular and nervous excitement were so pronounced every time head massage was tried that I had to abandon it. This was shown in suffusion of the face and eyes, sense of weight in the head, great mental excitement, hysterical crying; these symptoms were followed by corresponding mental depression.

9. Absorption of fat, loss of weight due to the removal of excrementitious material and useless fat, improved digestive powers, such therapeutic use of massage must be continued with the enforcement of dietetic rules and avoidance of fat forming food.

On the February 11th, I ordered general massage for a lady weighing 15 stone, 1½lb., who suffered from cardiac rhythmic irregularity. In a fortnight she had lost six pounds, and up to this day—March 13th—9½lbs.

Urine.—Interesting in connection with this case is an urinary analysis (No. 1.), made for me of the patient's urine of that passed immediately previous to an hour and a quarter's massage, and of that passed immediately after the rubbing.

No. 1.

Urine.	Before Massage.	After Massage.
Reaction	Acidulous.	Acidulous.
Total Solids	p.c. 5.90.	p.c. 6.55.
,, Urea	,, 2.40.	,, 3.05.
,, Uric Acid	,, .03.	,, .06.
,, Acidity (Lactic and Phosphoric)	,, .43.	,, .51.
,, Chlorine as Chlorides	,, .52.	,, .37.
,, Sulphuric as Sulphate	,, .12.	,, .15.
,, Earthy Salts	,, .31.	,, .34.
,, Alkaline	,, 1.00.	,, 1.10.
,, Specific Gravity of Sample	,, 1021.	,, 1028.

No. 2.

Reaction	Acidulous.	Acidulous.
Total Solids	p.c. 6.10.	p.c. 6.30.
,, Urea	,, 2.55.	,, 3.05.
,, Uric Acid	,, .06.	,, .08.
,, Acidity (Lactic and Phosphoric)	not estimated.	Not estimated.
,, Chlorine as Chlorides	p.c. .62.	p.c. .74.
,, Sulphuric as Sulphate	,, .18.	,, .15.
,, Earthy Salts	not estimated.	Not estimated.
,, Alkaline	,,	,,
,, Specific Gravity of Sample	p.c. 1026.	p.c. 1027.

The analysis was made by Mr. Brownen, F.C.S. Side by side with this analysis is another made a day or so, before, of the urine in a similar case of fat reduction. In this latter case Mr. Brownen did not estimate the alkaline or earthy salts, as fermentation changes might have influenced these and the acidity, as the urine was kept for forty-eight hours previous to analysis.

10. Resorption of lymph effusion and various exudations; reduction of glandular hyperplasias. While thus enumerating the physiological effects of massage, as experienced under favourable conditions of temperament and physique, and aided frequently by other therapeutical means, such as galvanism or faradism, baths, medicinal agents, special dietary, it must be stated that the process is frequently attended by various exaggerated or unexpected results in some or all of the directions eumerated which completely contra-indicate its employment. Certainly it is not a course to be prescribed or recommended in a careless or cursory manner.

It should not be entrusted without skilled medical supervision, to the judgment of ignorant men and women, to measure its extent and duration. I understand that we have now in London fashionable massage institutions for men and women, where the consulting *masseuse* exacts, in the first instance, a fee for prescribing the nature of the massage to be followed, after submitting the patient to the form of an examination. There are rubbers who speak of glands as "knots" in muscles, of tendons as hard "cords," which they endeavour to "disperse;" who rub dislocations for "sprains," "varicose veins" for nerves, and "rub" alike, the abdomen of the pregnant and non-pregnant. They are above a knowledge of all such trifles as the origin or insertion of muscles, the course of the circulation, the presence of cardiac disease, the nature of an effusion, or the position of the abdominal viscera. Ask such an one if she understands massage, and she cheerfully answers in the affirmative. She "has rubbed several cases, for Dr. So-and-so, who were undergoing the Weir Mitchell plan." She "knows all about it." She "has had some grand cures." She generally speaks of "*her* patients" and "*her* cases."

The "Weir Mitchell" system of "making fat and blood" has not been productive of unmixed good. But one of the evils that have resulted from the exaggerated and impulsive praise it received on importation into this country, has been the manufacture of a host of these Brummagen pests of medicine, the so-called "medical rubbers." They form a sort of link between a medical Vivandière and Franc Tireuse—irregularly tolerated but not recognised. It is quite sufficient to give one of these certificated frauds your hand, and ask her how she would proceed to *masser* it, or practise passive resistance flexion and extension movements on your arm to detect the imposition. The art of massage is not easily acquired by any, never by some, and for most medical men to pretend to do anything like justice to a patient, or to acquire that instinctive sense of muscle resistive force, or the skill in making manipulations would be absurd.

But does it much matter? I made Pil Hydrargyri frequently, in my apprentice days. I do not know that this fact added to my knowledge of its therapeutic effects. I learned more of this later from seeing five grains of it once cause severe salivation. If we know the effects and the object of the form of manipulation we advise, it is sufficient, in most cases. This, I maintain, we should know. Massage of the ear and eye, for example, I hold should not be practised, save by the medical man, or until the latter has satisfied himself of the competency of the *masseur*.

Once for all, let me say, that the massage I am speaking of is *not* "Vicarious exercise." It is not because exercise and massage have some points in common that they are ignorantly to be spoken of as substitutes the one for the other. It is somewhat of the crow and blackbird relationship. Massage in some of its methods is a form of exercise, but exercise is not massage. Manual massage differs widely from exercise, gymnastic or other, in the nature of the

excitation; the power of its limitation to defined areas; the direct action on the blood vessels, lymphatics and nerves; the comparatively slight evolution of body heat; the passive attitude of the subject; the absence of the more complex actions of a reflex and automatic nature, with the associated cerebral inhibitory supervision, which are the necessary attendants on exercise. The more complicated, or the more finely adjusted such exercises, the more widely do they depart in their nature from the manipulations of massage. We might as well compare the necessary manipulations, physical labour and fatigue of the *masseuse* with the effects on the person massèed. Therapeutically we might expect to find massage of benefit in gynæcological practice, in the following affections.

1. Atonic conditions generally, both of muscles and nerves, as for instance, relaxed abdominal walls, intestinal flatulent distention, chronic tympanitic states, chronic constipation, those forms of general debility and lassitude complicating menorrhagia, subinvolution, and other chronic uterine affections.

2. In reflex neuroses arising from or complicating morbid states of the generative organs in women, so called cases of irritable spine, reflex headache, cases of "uterine lameness," neuro-mimesis of joints, torticollis.

3. In amenorrhœa and dysmenorrhœa, especially those cases associated with anæmia and chloræmia.

4. In neuralgias of the pelvic nerves, oophoria, neurasthenic coccygodynia.

5. In unhealthy fat accumulation.

6. In masturbators.

7. In that numerous class of female patients, in whom there is no organic disease, and that we group under the terms, hysteria, neurasthenia, hypochondria.

8. Glandular hyperplasia.

9. Mammary infiltrations, in chronic mammary hardening, in threatened milk coagulation, in mammary neuralgia.

Here I may casually refer in passing to the splendid results I have seen in chronic constipation from abdominal massage. I allude particularly to cases of fœcal accumulation. I believe the proper treatment for the more obstinate of such cases to be, dilatation of the sphincters, clearance of the rectum, followed by a course of galvanism and deep massage of the abdomen. Nearly three years since I pursued this course in a lady who came to me from Australia, who had not for four years had a natural motion. I saw her again last year. She had abandoned aperients. A course of belladonna and nux vomica should accompany the massage.

I have here purposely included only those affections in which I have had ample personal proofs of the benefit of massage. I do not in any observations I make refer to combined internal and external massage, of which there are as many kinds as there are methods of gynæcological examination. I do not think that such modes of treatment are likely to find favour in this country. How far a licensed abuse of this practice might be carried we need not discuss. How far the possible advantages would be overbalanced by the certain evils, it is not difficult to surmise. No—we have had enough of internal massage in the shape of unwarrantable, unnecessary, and unduly prolonged medical examinations, to desire to invest with the professional sanction of such an association as this, a new tribe of uterine and vaginal manipulators. I know nothing personally of this form of massage in metritis, ovarian tumour, parametritis, perimetritis, cystitis, uterine tumours. It is not probable that I shall ever resort to it in such cases. Not having tried its efficacy, I do not wish to criticise *the results* of those who have. Still, I cannot help thinking, for a variety of reasons, both as regards operator and patient, that the time might have been more beneficially spent in trying other therapeutic or operative measures.

It would seem superfluous to speak of the dangers attending the use of external massage in parametritis, and the risks of an uncertainty of diagnosis in these affections or to the situation and character of effusions, but in works on massage, its employment is advised by various authorities in these conditions. One thing appears certain, that the responsibility of administering it in acute pelvic cellular or peritoneal inflammations should rest with no one save a qualified medical manipulator.

Even in cases of chronic pelvic lymph or serous exudations, I maintain, no mere nurse should be entrusted with the administration of massage, and no one should advise it save a physician, and one well versed in such diseases. I have known patients who were "rubbed" while suffering from fibroid tumour and ovarian-cyst. The kinetic energy here might have been better expended on the lady's boots. Not long since I had a patient with contracted vulvar orifice, lupoid degeneration of the vaginal wall, uterine hœmorrhage. She consulted me for the hæmorrhage. This was stopped after a little time, and I left. The next I heard of her was that she was being rubbed. A lady friend recommended it, and a doctor sent the masseuse. She was being "cured." The last I heard of her was that she was seriously ill, and under the care of the doctor who sent the masseuse. I have reason to believe that at the time he never locally examined the case. Now this is the abuse of massage, the vulgar empiricism that I complain of. A word on the Weir Mitchell plan. I do not deny its efficacy. I have had too many proofs of this in cases of my own to do so. I do, however, mean emphatically to give it as my opinion that discrimination and care are required, both in recommending it and carrying it out. I do not dispute that it is a lucrative method of treatment to the overseeing physician, more especially if he can bargain for half the large *honorarium* beforehand—*R.M.D.* But to fatten women up, and especially young girls, somewhat as a Bey of Morocco would do, in subdued light and on the flesh of ortolons, only substituting the æsthetic surroundings of a west end bedroom or boudoir for the seraglio, milk diet for the food of the luscious bird, and massage for a species of "lomi-lomi," is not always so permanently conducive to health of mind and body as we are led to believe. In one particular case I am cognisant of, such a course was attended by disastrous mental results, the patient narrowly escaped a lunatic asylum.

You can no more separate mind and body, says Professor Bain, than you can bisect a man's intelligence. The enforced stuffing and isolation entailed in this modern method of making blood and fat, though after all, as I have hinted, not so very modern, are hardly the therapeutic means to blindly bargain about beforehand, as one would for a trip in a P. and O. Steamer to Suez and back. I say that while such isolation and mechanical management may answer in a certain proportion of cases, it is a matter of simple common sense (call it, with Professor Huxley, "common ignorance," if you will) that it cannot but be

followed by injurious results in others, while in many the improvement, at best, is but of a transitory character. Let me, however, cite, in proof of the benefit of the Weir Mitchell system, the outlines of one remarkable case. A young lady, of highly neurotic temperament, consulted me for œsphageal and spasmodic stricture; she suffered from dysmenorrhœa, and there was a slight degree of retroversion. She was greatly reduced. The retroversion was restored. Still the difficulty of swallowing continued, notwithstanding active local treatment, œsophageal galvanism internally and externally, the passage of the bougie, and various remedies in the shape of nerve tonics, bromides, etc. However, ultimately she recovered sufficiently to enjoy food and revert to her ordinary duties. Some months subsequently she returned worse than ever. She was greatly emaciated, and could with difficulty swallow even a teaspoonful of fluid; the swallowing of any liquid was attended by a loud gurgling. An atonic state of the muscular fibres resulted in a pouch-like dilatation of the gullet, in which liquid collected, and from which it regurgitated. The skin was dusky and the face pinched. Altogether her state was most wretched. Still, I could pass, with a little difficulty, a large œsophageal bougie into the stomach. Suffice it is to say, that with a six weeks' course of Weir Mitchell's plan, combined with massage of the neck muscles and external galvanism, this patient was perfectly and, I believe, permanently restored to health. She was isolated from friends for a period of about five weeks.

I will conclude with a summary of one instructive case. About four years since, a young lady, accomplished and well educated, injured herself in playing tennis. She was examined under chloroform, and a large ring pessary inserted. This was after a time removed, but not before it had caused vaginitis and some metritis. This was followed by various neurotic troubles, inability to walk, agonising ovarian pain, loss of flesh, general nervousness. Another consultation ended in the verdict of "shortening of the round ligaments." She came a long distance to London to me, in order, as she wrote beforehand, to have this done. I could find no necessity for the curtailment of the round ligaments, ; there were the remains of the metritis, some slight retroversion, intense vaginal irritation, catamenial irregularity and scantiness, some left Fallopian fulness and ovarian congestion. She was under my care for some time, and underwent a prolonged course of massage and modified Weir Mitchell regimen. The progress was slow. Gradually she recovered. Her circumstances were rather straightened. She wanted employment. Having intelligently watched the excellent masseuse who operated on her, for a considerable time, she determined to learn massage. She did so, got instruction, studied for herself, and is now a very successful masseuse. Needless to say, her round ligaments were not shortened.

I crave your pardon for the length of this communication. The importance of the subject is my excuse. No one can stand before you a more complete proof of the benefit of massage than the reader of this paper, whose shoulder-joints were so crippled after rheumatism, some eight years since, that his college gown had to be drawn over his shoulders before lecture for two sessions, yet who, after all remedies had failed, by the aid of massage, the Turkish bath, and galvanism, has twice since then rowed down the Thames from above Oxford to Hammersmith.

Special Articles.

HEALTH RESORTS OF THE WORLD.

XXIX.—BOURNEMOUTH AND ITS NEIGHBOURHOOD.

By Alfred J. H. Crespi, of Wimborne.

Nothing, I venture to think, gives such a charm to the country as an abundance of trees, and the streets of Bournemouth are greatly favoured in this matter, in places resembling shady lanes. But to make a walk along country lanes thoroughly enjoyable, a good deal besides trees is necessary—the air must be clear and dry, the temperature warm, and the country itself interesting and well cultivated. Still, however warm and bright the day, and rich and verdant the meadows, the dearth of trees takes away more than half the enjoyment of a long stroll through country lanes. Sir Arthur Helps once wrote that the loveliest scenery failed to delight him unless the air was balmy and calm: he much valued too another great charm of country life, what the Romans would have called *susurrus*, the aggregate of many gentle movements of many gentle creatures.

There are regions of the world where the scenery is magnificent; and the eye never wearies of gazing upon boundless plains teeming with life, and grain, and fruit, or on distant ranges of snowcapt mountains, while here and there the landscape may be relieved by broad belts of dark-green woodland, or by glimpses of the distant sea. But though these objects impart beauty and variety to the scenery; though they raise the thoughts to Him, who called this wonderful world into existence; though they form a glorious picture—they may not necessarily, when the several parts are closely examined, be pretty and interesting. In other words, the landscape as a whole, when viewed from a distance, may be lovely, and the recollection may long fill the mind with pleasure; it may even be so beautiful that it might be impossible to conceive anything more exquisite, or to weary of drinking in its wonders. Yet in that extensive and varied panorama there may be no pretty, little-frequented lanes, no sequestered nooks, in which the lover of nature could gladly pass a few quiet hours. It may be distance alone which lends "Enchantment to the scene, and clothes the mountain in azure green." The most beautiful parts may lose their attractions as soon as entered and closely examined; the mountains, when climbed, may be bleak and barren; the forests, when explored, may be dull and gloomy; and the fields, when traversed, may be only wide tracts of badly-cultivated and uninteresting land. In more genial climates than ours, there are said to be cities which at a distance are resplendent in the warm rays of a cloudless sun, and seem invested with the fascinations of a fairy scene; and so the most magnificent scenery may be that gazed upon from a rugged peak in the midst of a wild and barren country. The traveller hastens to enter the white streets sparkling in the sunshine, and finds on nearer approach only squalid buildings, narrow, dirty lanes, and miserable people. Thus is it with many far-famed scenes which, from a distance, enchant the eye, but nearer at hand are found to be monotonous and unpleasing. It seems to me that though England has not a balmy and cloudless atmosphere, like that of more favoured regions, though her landscapes are less extensive, her plains often shrouded in mist, and her mountains less lofty, there is a

bewitching softness in her woods and lanes, in her fields and dales, elsewhere unsurpassed. This is the opinion of many cultured and thoughtful people—ardent lovers of nature—who have had frequent opportunities of seeing the far-famed beauties and marvels of lands, where the sun shines brighter and oftener, and the atmosphere is less humid. There they say, the hills, the forests and the dales are very beautiful; but they lack the peculiar loveliness of an English rural scene. It may be the love of their native country which has, in some cases, led to the formation of this opinion; but, however that be, is there anything more sublime, more peaceful, than an English landscape basking in the summer sun? I at least want to see nothing more soothing.

When the hedges, after their long winter sleep, begin to clothe themselves in their lovely spring dress, and the trees put on the garb of summer, when the days lengthen, and the sun shines with fervour, hundreds of English hamlets, thousands of English lanes could be found, where the most restless might be at peace, and the most troubled might find happiness. A few miles from those immense hives of population in which half a million men and women toil to earn their daily bread, day after day, summer and winter, in the midst of squalor and dirt, temptation and suffering, there are almost certain to be lanes and woods basking in the glorious sunshine, and merry with the song of birds. How beautiful are the fields in those parts of the country where they are one mass of golden tinted flowers! How lovely are the wild straggling hedgerows, covered from top to bottom with white hawthorn blossoms! How tranquil are the woods, in which fifty kinds of trees grow and give a variety to the foliage which never tires the eye! I do not say that the country is everywhere beautiful, nor that every village is charming; but there are in thousands of parishes beauties enough to make the heart thankful and the eye glad. In all probability, country lanes and fields are more deserted than formerly. At any rate, many high roads, along which we might now wander for hours scarcely meeting half a dozen persons except in or near villages and towns, were once the great national arteries, along which carts, coaches, and foot passengers flowed in a continuous stream to all parts of the land. Now all is changed. The railway has taken the place of the old road, and the latter is seldom trodden. There has also been a lamentable drifting of the population into the great cities and ports, and the rural districts are less traversed, less frequented, than they were fifty or even a hundred years ago. I have walked thousands of miles along grass-grown lanes and roads, and passed through hundreds of villages, even close to great towns, where the solitude was seldom disturbed by man. Last summer, I wandered for many hours, three or four evenings a week, through one of the most beautiful districts in England, and though never far from a town in which scores of thousands of mechanics ceaselessly toiled, I did not meet fifty people in the hundred miles I walked every week. Nay, once or twice in the course of a ramble lasting eight or nine hours, I did not see half a dozen persons. Men talk of the stony wilderness of London, where the weary outcast may find solitude which no one attempts to disturb; but a solitude far more soothing, and much more complete, might be found in many a thinly-peopled country parish. The outcast might there take possession of a barn or shed, and days would go by without anyone intruding on his sorrow. If I wanted to pass three or four hours perfectly undisturbed, I should go by train to the nearest country village, and then walk along any quiet lane for a mile or two, and by that time I should have left man and his belongings far away. The sun might rise high in the heavens, and sink again to rest, and had I chosen my quarters well for the day, not more than two or three persons would disturb me. There are parts of England, not many miles from the crowded town where I originally commenced this article, which give not a bad idea of the solitude of the backwoods of America and of the plains of Australia.

Thackeray, in "The Virginians," has beautifully described the change that has come over our country roads and lanes. He says: "The high road a hundred years ago was not that grass-grown desert of the present time, it was alive with constant travel and traffic; the country towns and inns swarmed with life and gaiety. The ponderous waggon, with its bells and plodding team; the light post coach that achieved the journey from the "White Hart," Salisbury, to the "Swan with Two Necks," London, in two days; the strings of pack horses that had not yet left the road; my lord's gilt post-chaise and six with the outriders galloping on ahead; the country squire's great coach and heavy Flanders mares; the farmers trotting to market, or the parson jolting to the cathedral town on Dumpling, his wife behind on the pillion—all these crowding sights and brisk people greeted the young traveller on his summer journey. Hodge, the farmer's boy, and Polly, the milkmaid, bobbed a curtsey as the chaise whirled over the pleasant village-green, and the white-headed children lifted their chubby faces and cheered. The church spires glistened with gold, the cottage gables glared in sunshine, the great elms murmured in summer, or cast purple shadows over the grass."

But to leave the glories of country rambles and come to the subject proper of my article. One of the most interesting events in the history of Bournemouth was the cutting of the new line from Brockenhurst to the East Station, a work involving great engineering difficulties, and costing three quarters of a million. For some years, the obstacles to success threatened to overwhelm the contractors and to wear out the patience of the residents in the town. At last the Directors were rewarded for their energy and perseverance, and the official opening of the Direct Bournemonth Railway, on the 5th March, 1888, to which I received an invitation to represent the medical profession, may be taken as a good text for an article on that rising watering place, which has lately been growing in favour, and is competing keenly with older towns over which it has many unquestionable advantages, the chief of these being its comparative newness. Some watering places, like Weymouth, were general favourites several generations ago, and the older parts are consequently narrow, crooked and unattractive; but that does not apply to Bournemouth, which has sprung up in the lifetime of people still young. Dr. Wake Smart, of Cranborne, tells me that he remembers the town when it consisted of only half a dozen houses, and when no expectation of its future importance had entered anyone's head. The roads are straight excellent, and broad, the side streets are wide and open, and the place has a picturesqueness rarely found in English towns. Moreover, the area covered is extensive, and the houses are solidly built, with usually ample space around them, so that the larger villas and lodging houses stand in shrubberies and small fields.

Guide books to the place of course abound, the most complete, perhaps, is the "Medical Aspects of Bournemouth," by Dr. Horace Dobell, a brother of S. Dobell, the poet, and

one of the many medical men, who, of late years have flocked into the town. I shall not speak with anything but respect of his book, which goes perhaps too much into medical details, and is somewhat disfigured by reports of over forty cases of illness; it must have cost him much labour. As I am a perfect stranger to him, and have never even seen him, I can speak with greater freedom. Dare I hint that many guide books are couched in rather too flattering terms. It is a pardonable weakness of the compilers of such works to know only one place, the one in which they reside. The first paragraph of almost every book of this description might commence something in this fashion: "In this beautiful place snow, fog, and mist are unknown, cold is never experienced, heat never troubles the visitor, rain only descends at night, and all the deaths are among strangers who have come to die, the residents being endowed with immortality." Dr. Horace Dobell at any rate does not hesitate to claim for Bournemouth the proud preeminence of having the most perfect and genial climate under the sun. This does strike the wanderer into many lands as going rather beyond the latitude allowed to the guide-book maker. And yet Bournemouth has conspicuous advantages of climate and position, and fewer people would leave it disappointed, were the descriptions that are published more in accordance with fact. But when people are told that at Bournemouth they will find a perfect climate, and that the sun always shines there, even on the coldest days, they cannot fail to be disappointed. Dr. Dobell actually talks of "the only very bad week of the whole year." as though in most winters good weather could be counted upon with as much regularity as daylight. Nowhere in the United Kingdom is the winter warm, agreeable and dry; nowhere can invalids hope to sit out day after day; wide differences certainly there are, and the southern and south-western districts have less cause to complain than those farther north. But whatever horrors fill our winter even at Bournemouth, our summer is widely different; it is delightfully free from the annoyances and insect pests of hot regions. If there is one wish which I might express with regard to it, it would be that it brought more fine, cloudless days; I do not ask for higher temperatures, though they would be welcome; I do not ask for a longer summer, though it is hard to have so few fine days till June comes, and not to be able to count on them after about the 20th of August. But I wish that, during the ten or twelve weeks, when the days are long, the flowers blooming, and the fields green, there were fewer clouds. I do in short wish that the glorious, merry sun would not so often hide himself behind dense clouds, and leave the earth to mourn his absence.

For a British health resort Bournemouth is greatly favoured, and has many attractions for people who cannot go abroad to winter; but with the rapid cheapening of continental travel, even our most fortunate health resorts feel foreign competition keenly. I shall lay before the reader some valuable tables of temperatures, and other climatological observations, from which he will see the exact position of the town and its neighbourhood. These figures convey volumes, and are worth all the rhapsodies and poetical descriptions with which professional showmen try to attract the public. At the official opening last year I was placed in a carriage with a great metropolitan luminary in front, by my side sat a leading Bournemouth doctor, who did not know me by sight, and so he totally ignored me, while he enlarged to the astonished and not very astute Londoner on the tropical glories of the climate. The day chanced to be singularly warm and soft, and in marked contrast to dozens that had immediately preceded it; but the veracious Bournemouth practitioner described it as exactly the kind to be always counted upon; "this is just a fair average day," he continued. "Bless my soul," ejaculated the astonished metropolitan physician, "we have in Town been having very cold weather," and so, though he did not know it, they had at Bournemouth too.

TABLE I.

EXTRACTED FROM MR. MARRIOTT'S TABLES.

	Absolute		Mean Temp.	Annual Range	Cloud	Rainy Days	Inches of Rain	Relative Humidity
	Max.	Min.						
1885.								
Alston	80.4	5.1	43.4	75.3	7.3	225	42.26	87
Cheadle	82.8	21.0	45.6	61.8	6.7	201	30.25	87
Southbourne	82.7	21.3	48.8	61.4	5.9	164	27.26	81
Torquay	86.3	24 8	49.6	61.5	6.4	176	32.05	78
Guernsey	82.8	29.1	51.4	53.7	7.0	169	30.42	83
1886.								
Alston	77.7	2.0	42.5	75.7	6.9	229	63.2	83
Cheadle	78.8	18.2	45.9	70.6	7.1	213	36.41	87
Southbourne	85.2	21.4	49.0	63.8	6.0	181	33.59	82
Torquay	82.3	24.3	49.6	58.0	5.9	193	37.75	..
Guernsey	78.1	29.2	51.5	58.9	6.7	198	40.25	86

TABLE II.

TAKEN FROM MR. GLAISHER'S TABLES FOR 1886.

	Absolute			Mean				
	Max.	Min.	Range	Max.	Min.	Temp.	Cloud	Rainy Days
Southbourne 1st Qr...	57.5	21.5	36.	42.7	32.6	37.6	6.1	50
Wolverhampton ,, ,, ..	60.1	13.4	46.7	39.9	28.8	34.3	8.0	48
Southbourne 2nd Qr...	75.2	30.0	45.2	58.7	44.6	51.0	5.3	39
Wolverhampton ,, ,, ..	73.9	27.0	46.9	58.5	40.7	48.0	7.8	43
Southbourne 3rd Qr...	85.2	37.9	47.3	67.6	52.9	59.6	4.6	30
Wolverhampton ,, ,, ..	81.8	34.4	47.4	66.3	49.0	56.5	6.6	35
Southbourne 4th Qr...	69.9	23.1	46.5	51.9	40.6	46.2	5.6	62
Wolverhampton ,, ,, ..	70.6	19.4	51.2	48.0	36.7	42.1	7.5	53

TABLE III.

COMPILED BY MR. WILLIAM MARRIOTT.

HOURS OF SUNLIGHT.		
	1885	1886
London	1018	1003
Southbourne	1523	1538
Buxton	983	679
Ventnor	1704	1683
Blackpool	1326	1239

From Dr. Dobell's last edition of his work, I take without apology the following additional figures which are practically common property. There is not an exact correspondence between them and those already quoted: they give Bournemouth a somewhat warmer, drier, and brighter climate than the official tables warrant, but the difference is not very marked.

Mean daily monthly maximum for eighteen years:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
44.5	46.7	49.0	54.6	59.6	65.1	68.8	68.8	64.3	56.6	49.5	45.0

Mean daily minimum of each month:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
35.8	38.0	37.1	40.9	44.4	50.4	54.2	54.3	50.8	45.0	39.0	36.1

Mean daily monthly range:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
8.7	8.7	11.9	13.7	15.2	14.7	14.6	14.5	13.6	11.6	10.5	8.9

Adapted mean monthly temperature:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
40.2	42.2	42.5	46.8	51.1	56.7	60.3	60.7	57.0	50.4	44.1	40.8

The mean temperature of the year, according to Mr. Glaisher's method, is 49.4.

The maximum temperature of the year was above 80° in eight years, and below 80° in ten; while in eighteen years a maximum of 82° was only twice exceeded—in 1868 and 1876.

Mean monthly amount of cloud, perfect clearness being represented by 0, and complete cloudiness by 10.

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
6.1	6.1	4.6	4.4	3.9	4.2	4.2	4.1	4.1	4.1	4.9	5.8

Mean monthly amount of humidity, or relative humidity (saturation 100):

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
86	88	81	78	76	76	77	77	78	83	85	86

Mean monthly rainfall:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
3.20	2.50	1.80	1.96	1.68	1.85	2.30	2.34	2.94	3.23	3.09	3.01

Average number of days on which any rain fell:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
17	16	12	12	12	11	13	12	14	16	14	16

Average number of days on which the wind blew during the year from the following quarters:

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
39	50	26	28	26	70	68	49	9

Those tables, which have the authority of Mr. Glaisher, F.R.S., and of Mr. William Marriott, the able and accurate Assistant Secretary of the Royal Meteorological Society, cannot be disputed. I am sorry to have to say so, but they dispose by the iron logic of inexorable figures of countless papers and articles on the Sicilian beauty of the climate, and hardly bear out Dr. Horace Dobell's description of a Bournemouth winter. They show that Bournemouth enjoys a climate three degrees warmer than Wolverhampton, with about the same absolute range of temperature, and the same number of rainy days, and not quite such a low absolute minimum. The one matter—and a very important one, too—in which Bournemouth surpasses the midland towns is in the greatly larger amount of sunlight; in other words, it has twice as many hours of brilliant sunshine as Buxton, Cheadle, or Wolverhampton; and, consequently, on many days, when it is not tempting to go out of doors in those places, at Bournemouth open-air exercise is agreeable, or, at any rate, endurable. But the climate is very far from perfect, and I cannot forgive the frequent and searching winds and the driving gales, which are far worse than those in sheltered midland districts. The biting sharpness of the east winds at Bournemouth—a disagreeable feature of the climate of the whole south coast from Brighton to Penzance—may fairly be set against the small amount of fog experienced near the sea. I do not want to be captious, but few invalids from a distance go to Bournemouth, or, indeed, to any other southern watering-place, without complaining that they have been deceived. Let them remember that the climate of the United Kingdom is remarkable for its equability, that ocean breezes pretty equally modify it in all districts, and that between the extreme south of England and the most northerly of the Scotch islands the difference of mean temperature for the year is barely six degrees. Contrary to the impression sometimes entertained, however, July in the south—over a small area between Bath, London, Oxford, and Salisbury to be exact—is 11° Fahr. higher than July in Unst, while the difference in the January temperatures between the two is scarcely appreciable. From the beginning of November to the end of March longitude, not latitude, is the most important factor. Still, the winter of the south coast, though so little warmer, is far brighter and pleasanter, and that is a distinct gain.

Bournemouth is the name given to a large and somewhat ill-defined area, covered more or less thickly with houses. The western portion is called Parkstone, and is in the parish of Poole. Then comes a long, narrow district of houses—Branksome, Bournemouth West, and Bournemouth East, and still further to the east, Boscombe: indeed, from Poole to Christchurch, a distance of nearly nine miles, there is a good deal of scattered building, which every year is filling up fast, and stretching northwards. Bournemouth is not at present incorporated, although it ought to be; and it is impossible to speak with certainty as to the population: 30,000 is the figure often given, but surely this must include Poole and Christchurch. The main portion of Bournemouth is curiously shaped; it is long and narrow, and extends full three miles along the Old Christchurch-road—a straight and very handsome thoroughfare. The town, unlike many other seaside watering-places, is not exactly on, but at a distance of half a mile or so from the sea, at certain points approaching nearer, and at others lying farther off. From no part of the town, properly so called, can the water be seen, although a few houses on the east and south cliffs look down on the beach, with its bustling crowds and its magnificent pier, and much of the attraction of the place is actually due to its not being on the sea, so that there has been more space for new houses and roads than there would have been had the town only been the expansion of an old fishing village. There is no road along the sea, though several lead down to it, and some of the chines and ravines are very beautiful. No stately terrace or crescent looks over the water, and in this respect the contrast between Bournemouth and some other watering-places is curious and decided, and the stranger finds all the charm of novelty.

Bournemouth is singularly favoured; indeed, I do not know any other health resort that compares with it in the cheapness and endless variety of its sea excursions. Without a harbour, without shelter, it would seem to be the very last town to have such unrivalled advantages; but then, only four miles off is the capacious and convenient harbour of Poole, and from early in the morning till late at night steamers ply from Bournemouth pier to Yarmouth, the Needles, Ryde, Ventnor, Cowes, Swanage, Torquay, and—but more rarely—to the French coast. A guinea ticket entitles the holder to all the shorter excursions for the season.

Another feature is the churches, which seem far in excess of the requirements of the scanty population, and in their superabundance it resembles Torquay and Brighton. The services are usually ornate and frequent, though the attendance, except on special occasions, when the whole population appears to be present, is often small. Only St. Peter's has any great architectural pretensions, and it is one of the finest ecclesiastical buildings in the diocese; it is striking from its size, lofty and graceful spire, and abundant handsome ornamentation. A large and handsome Presbyterian Chapel has recently been built, and has a crowded congregation.

The place is not easy to describe: with no central railway station, with scarcely any centre, like an inland town, from which to start, and with few salient features, it does not easily lend itself to the requirements of the descriptive writer. It is somewhat lacking in striking natural advantages, as, for example, it has no Derwent Parade like Matlock, no splendid Promenade, Park and Pitville Gardens like Cheltenham, no Jephson Gardens like Leamington, and

no Pulteney-street and Royal Crescent like Bath. But it can do without these and other attractions, for it is a singularly handsome, clean, well-built, improving place, with light, sandy soil, quickly drying after rain, many imposing shops, and hundred of fine villas, to which constant additions are being made. Its pine woods, however, have long been its special feature. The soil being dry and sandy is not remarkable for its deciduous timber, but pines grow splendidly, and many of the streets, especially on the east cliff, are well shaded and extremely pretty, and in places, where the builders have not been too energetically at work, glens and chines are to be found that present a strikingly pretty appearance, totally unlike anything else which I have ever seen in a town, so that practically the place is unique. The Talbot Woods are said to contain one million pine trees. The rhododendrons, too, in June are very fine, and the display of flowers magnificent. Branksome Chine is especially famous for its rich luxuriance at that pleasant season, and so is the park near Herne Station, which then attracts crowds of visitors. In another respect Bournemouth is remarkable: it is in the long, narrow, well cared for public gardens, stretching for a couple of miles along a little stream to the sea. These gardens are crossed by the main road, not far from the Arcade, near the foot of Richmond Hill, and are as attractive as many a more pretentious park. On summer evenings crowds of excursionists wander along them and make their way to the pier to which they lead. From the foot, too, of Richmond Hill the outlook is very beautiful, and the visitors from the north cannot help being charmed, although they must not expect that the sun is always shining and the wind always still.

The town abounds in hotels, lodging and boarding-houses, and doctors; the last have swooped upon it like vultures. Some of the latest estimates give over sixty medical men in active practice among perhaps 20,000 or 25,000 people, a proportion reminding one of Leamington, Cheltenham, and Scarborough. One might consequently fear that the district was unhealthy, but never was there a greater mistake, for there is considerably less sickness, and the death rate is lower than in most places of equal population. One can only charitably hope that when the town becomes a second Brighton, if more doctors have not in the meantime come to share in the spoil, the patient and long tried medicoes, who survive the disappointments of years, will reap their reward. Complaints have been rife as to the exorbitant charges for lodgings, and some visitors have had good cause to wince. It is inexcusable that charges should be so high. At ordinary times hundreds of rooms are to let, and lodging-house keepers are persistent in their complaints that the place is empty. As there is no palatial terrace facing the sea, and no broad and magnificent promenade, attracting the richer visitors and fixing the local tariff, no part of the town should demand high rents, and one can only regret the imprudence of the lodging-house keepers, which drives many visitors away.

Amusements are not on the whole very varied, nor of a high order. The theatre, which used to be one of the prettiest and most tastefully arranged I have ever seen, has recently been converted into a nondescript kind of hall for miscellaneous entertainments; and unfortunately, in the transformation, its special fitness for the drama has been sacrificed: still there are frequent concerts of the highest class, and the local temperance societies are in a chronic state of unrest, and are eternally arranging special missions on a large scale.

Of land excursions the variety is fairly large, but not close to the town. The two favourites are Wimborne, famous for its magnificent and unique Minster, with its great central and west towers and Chain Library, and the New Forest. During the summer carriages full of excursionists ply many times a day to Wimborne and to Rufus's Stone; the latter is twenty miles from the middle of Bournemouth. But the most beautiful country, Kingston Lacy and Badbury Rings, the far-famed Park and White Farm of Crichel, the Castle Hill at Cranborne, and the superb Museum at Rushmore, could not from their distance be conveniently reached except from Wimborne, between which and Bournemouth there are fifteen trains up, and as many down, a day. Christchurch Priory is also very grand, and in size, massiveness, and interest has no rival nearer than Salisbury Cathedral and Romsey Abbey; the last is not easy to reach from Bournemouth, though it well repays a visit and a critical examination and its splendid proportions and heavy Norman architecture make an impression never effaced: every one who could get so far should make the most of his opportunity.

But Bournemouth is a health-resort; for what diseases is it good, when is it in season, and who should go there? Enquiries are readily and encouragingly answered; it is always in season and good in all complaints, and in truth some visitors are always there, and invalids afflicted with every complaint under the sun are welcome. Although described as a winter resort it is, like all seaside places, pre-eminently a summer favourite. Easter and Whitsuntide, if mild, bring a good many excursionists and visitors for a few days, then there is a lull. June sees a little stir, while in July it is often full, but in August and September it is crowded, and were the charges more reasonable all the lodgings would be occupied; true Dr. Dobell says that all the rooms are at times let, even in winter, but my experience differs from his, and I am no stranger to the place. In winter the place is very far from full; there are then, of course, no land or sea excursions in spite of the tropical sunshine, and not many amusements, compared with those of large towns that is, and invalids do not come in large numbers. Moreover, imprudent mis-statements as to the climate disappoint most people who venture so far in winter. It is hardly wise to call a place the English Nice or Mentone; it makes strangers expect so much, and to promise exemption from cold and other climatic disagreeables is still less prudent. With March the weather often becomes bright, and short fine spells may be expected; these increase in length and frequency through April, and from the early part of May to the middle of August there are few grounds of complaint. The autumn, after the break up of the weather early in October, is often dull and wet, with frequent mild, soft, humid days, on which exercise is pleasant enough—foxy days, sailors call them the precursors of gales of rain and wind, and at Bournemouth these gales, when they do come, are felt with a vengeance, as I can testify; still the invalid can console himself with the reflection that in no other part of the United Kingdom is the weather likely to be pleasanter.

To sum up—Bournemouth is a charming town, rapidly growing in well-deserved popularity and favour, rather handicapped by the infrequency of the trains on the Somerset and Dorset; indeed, there are only three good trains to Bournemouth in the afternoon on that line, and not one in the morning, while from West Bournemouth only three good trains run in the morning to the North, and not

one in the afternoon. It is annoying to find that one has to leave Bristol at 6.20 a.m. to reach Bournemouth at 11.15. But were the trains punctual in getting in one need not complain so much, but unfortunately they usually keep very bad time, and are much later —five hours to do sixty-four miles or so, while one cannot leave Bournemouth in the afternoon for Bristol or Bath by any train that travels at good speed, four or five hours being again required. Much is expected of the Direct Bournemouth Railway from Brockenhurst to the East Station, which avoids the great detour at Ringwood, and the bad road from that quaint old town to Bournemouth. Should the new loop be well worked it will enormously increase the advantages of the town, and attract more visitors from the North and from London, and up to the present not many complaints are heard. Other much needed improvements are the doubling of the whole of the Somerset and Dorset System, and readier access to the North, with fewer delays at Bath and Templecombe, more amusements of a high order, and a pretty little theatre confined to the drama. Visitors must not be regarded as mines of wealth, as most of them are only just able to pay their way with economy. The rich few are everywhere welcome, but it is the struggling millions whom Bournemouth must do its best to welcome and provide for, and who would fill her coffers and enlarge her boundaries, although they might not be able to pay two guinea fees for a visit, and might not employ half a dozen physicians apiece.

XXX.—AJACCIO.

By an Old Oxonian.

A climate, in which the visitor may, for weeks together, have not one day of rain, cloud or wind, in which the nights are warm but not oppressive, and in which the spring temperature is absolutely perfect, makes the Englishman wonder if he has heard aright. We have small belief in perfect climates; for warm winters often mean burning summers; low latitudes are made unbearable by myriads of insect pests, noxious complaints, and intense and long continued heat, while high latitudes are usually distinguished by intensely cold winters, and much cloud. And yet, if all one hears is true, at last an Eldorado has presented itself in the shape of Ajaccio in Corsica. The visitor to the Riviera, looking to the South on a winter morning at sunrise, may see the sun appearing from behind some far away mountain peaks, so remote that they are seldom visible even under the most favourable conditions. As the day advances the peaks are lost to sight, and it may be some days or weeks before the fairy spectacle is seen again.

The charms of winter on the Riviera need no description; the warm, health-giving sun, the transparent atmosphere, the twenty fine days a month in the middle of winter, the luxuriant vegetation, and the bright coloured flowers combine to make a long residence a delight the memory of which never fades away. Drawbacks there are it is true—the chilly evenings hardly made endurable by the miserable wood fire, the keen mistral, the lack of those familiar comforts within the reach of all in England except the poorest, and the occasional spells of bad weather.

Ajaccio, however, is asserted to escape many of the disadvantages, such as they are, of the Riviera. Its magnificent position on the west coast of the picturesque island of Corsica is, once seen, never forgotten, while the placid Mediterranean, the deep blue sky and the majestic scenery in the background are attractions that more than recoup the visitor for any trifling inconvenience he may have passed through to reach the birthplace of Napoleon.

Corsica has been much improved of late as a place of residence; the steam communication is better, admirable roads encircle the island, and some cross roads have been cut, one, for instance, from Bastia to Ajaccio; life and property are both as secure as in England and the hotel accommodation, which not long ago, was execrable, soon promises to be excellent, and strenuous exertions are being made to build a large and commodious hotel on English principles and under English management, and as some of the promoters have a high reputation, and Corsica possesses advantages that few places in so high a northern latitude can equal, there ought to be a grand future before the island.

Of the history of Corsica we will say little, though it would furnish material for a long dissertation. The scholar remembers that Seneca passed eight years of discontented exile in Corsica, and every school boy knows that Pasquale Paoli, the patriot, and Napoleon, the daring conqueror of Europe, were natives of the island, and to the end of time Ajaccio will call up memories of such a character that we pray the world will never have a repetition of them.

Corsica is fortunate in situation and in configuration—situated in the middle of the warm and sunny Mediterranean it is protected from cold blasts from the North, and what that means we will proceed to show. In the middle of January, Nice is mild and pleasant enough, and the mean minima range from 38.6°F. to 42°F., while at nine p.m. the thermometer will mark 42° or 43°F. We need hardly say that though these figures are not higher than in sheltered places on the South and South-West coasts of England, the Riviera winter night is pleasanter and exposure is more agreeable; still the temperature is low, though very unlike that of cold spells in England, and of the Midland and Northern districts at that season. At Ajaccio, however, the difference is startling, and there the day maxima are 6°F. above those of Nice and Mentone, while the mean temperature of the month is from 4° to 6° higher and the nine p.m., reading is 10° or even 11°F. higher than at Nice. On an ordinary January night it is perfectly possible to sit out in the open air without any greatcoat, and to have nights so cloudless and moonlight so brilliant that the stay-at-home Englishmen can hardly form any conception of them. We remember looking down over a great continental city on a lovely June day last year; beneath us stretched for miles the sharp cut outlines of the broad and busy streets; we could distinctly see the leaves waving, while the mortar between the paving stones and the distant church steeples stood out clear and sharp as we should never see them at the same distance in England. The following evening, at six o'clock, we stood in London, in front of Charing Cross Station; the haze made objects a hundred yards off indistinct, and even on the opposite side of the not too wide street there was a mistiness that made us think longingly of the more favoured city we had so recently left. And once, some years earlier, we were walking in a Virginian City on a November evening, the scenery was not particularly majestic and the historical associations were possibly commonplace enough, but the genial warmth, the bright sunlight, and the tranquility made us wonder whether it could be possible that at that season English towns were dark and gloomy and outdoor exercise for pleasure hardly

to be thought of. Perhaps nothing more impresses the wanderer from England than the sunlight, the warmth and the transparency of a southern latitude, more particularly in winter, when the weather in almost every part of the United Kingdom is simply detestable.

Every year the facilities for getting away from home in the winter are increasing; travelling is becoming cheaper, easier and more rapid; places hitherto inaccessible are no longer difficult to approach or leave; English residents are to be found everywhere; English built and English managed hotels are springing up in parts of the world that were hardly known by name to ordinary Englishmen ten years ago, and Corsica seems likely to become a favourite residence, more particularly during the winter. Much of Corsica, moreover, stands at such an elevation above the sea that summer residence would have great charms; at the same time it is not so much the actual cold, measured by degrees, as the damp, depressing gloom of our Northern winter that makes so many people leave England for the South, and it is just at that season that, unless we are greatly mistaken, Corsica and more particularly Ajaccio will be found so attractive. At present, moreover, while to pass a winter on the Riviera, at Naples or at Malta hardly confers any social distinction, Corsica is still a *terra incognita*, and for some years it will be something to boast of having wintered in a land so near and yet so little known, so singularly favoured by nature and not altogether forgotten by art, and having some of the advantages of modern civilisation.

REFORM AT THE ROYAL COLLEGE SURGEONS OF ENGLAND.

The high-handed action of the President and Council of the Royal College of Surgeons in forbidding, and, with the aid of police, preventing its members from using their own premises, has stirred up an agitation which promises to put an end to the reign which has too long existed at this College.

The members, backed by a number of independent fellows, have started on the war-path, and so far they have won in the Law Courts. We submit to our readers the following Bill, and ask them to well consider it and support it by means of their local M.P's. :

DRAFT BILL TO AMEND THE CONSTITUTION OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND TO DECLARE AND EXTEND THE RIGHTS OF MEMBERS THEREOF.

Whereas the Royal College of Surgeons of England is an ancient free Corporation, which has existed as a Society, Guild, Company, or Fraternity of persons practising Surgery under various names from very early times by virtue of several Royal Letters Patents and Acts of Parliament; and whereas it is expedient to declare and regulate the ancient rights of the Members of the Royal College of Surgeons of England, and to amend the constitution thereof, and to provide certain new regulations relating to the government thereof in lieu of and in addition to those now provided by Letters Patent and Acts of Parliament relating to the same, and to amend and alter certain by-laws :

Be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons in the present Parliament assembled, and by the authority of the same, as follows :—

1. At the next and every succeeding election of members of the Council of the College, the persons elected shall hold office for three years only, but shall thereafter be eligible for re-election subject as hereinafter provided.

2. From and after the passing of the Act, the Presidents and Vice-Presidents of the College shall be elected in manner hereinafter provided, and shall hold office for one year only, but shall be re-eligible, provided that the term of office of any of them shall not exceed three years consecutively.

3. Whereas it was part of the ancient constitution of the College and Corporation that all the Members thereof were eligible to the offices of Masters and Governors thereof, be it declared and enacted that from and after the passing of this Act it shall at any such election of a President or Vice-President be lawful to nominate as a candidate any Member of the College duly registered as hereinafter provided who shall on the day of election be of more than twenty years' standing as a Member of the College.

4. Whereas by the ancient constitution of the said College and Corporation all the Members thereof were in right of their membership entitled to meet together for their common affairs, and to attend and vote at the customary annual meeting, and at all other general meeting of their said Society; whereas by reason of the partial disuse of some of the said rights questions have arisen thereon which it is expedient to determine by the authority of Parliament; and whereas certain regulations and by-laws have been made in the premises which it is expedient to alter and amend, be it declared and enacted that on and after the passing of this Act the Members of the College are and shall be entitled to meet together within the hall of their College or elsewhere, at all reasonable times, for the consideration of the affairs of the College, and to propose resolutions and to vote thereon at every general meeting of the College, and to vote at any election of Presidents, Vice-Presidents, and members of the Council of the College (subject as hereinafter provided), and at any meeting to appoint committees for special purposes, and to adjourn any meeting to another place and time, and it shall not be deemed to be necessary to obtain the previous permission of the President and Council for the holding of any such meeting, or for the proposal of any business therein.

5. It shall be the duty of the Council to call a general meeting of the Members at least twice in each year, and to call at any time a special general meeting within one calendar mouth after the receipt of a requisition signed by twenty Members of the College; and if any special business be named in any such requisition, notice thereof shall be included in the advertisement convening any such meeting.

6. At all meetings of the Members of the College the President shall be entitled to take the chair, and the Chairman shall take the sense of the meeting upon all resolutions proposed by any Member of the College after three days notice in writing, and upon all proper amendments thereof.

7. Section XVII of the by-laws of the College is hereby repealed, and whereas doubts have arisen as to the validity thereof, it is further hereby enacted that it shall not be lawfully for the President or Council of the College to take or continue any action against any Member of the College for any alleged infringment thereof, or to continue or enforce any penalties or liabilities which before the date of the passing of this Act may be declared, or imposed, or attempted to be imposed, in respect of or arising out of any past alleged infringement thereof.

8. If any resolution relating to the expenditure of the revenues of the College is passed at any general meeting of the Members, by a majority of two thirds of the Members present and voting, the said resolution shall forthwith be binding on the Council and on any Finance Committee thereof; and any subsequent expenditure in contravention thereof shall be disallowed on any subsequent audit.

9. If, and when, the Council shall deem it desirable to incur any extraordinary expenditure to the amount of £1,000 or upwards, the President shall forthwith convene a meeting of the Members of the College, and shall take the sense of the said meeting on the said proposed expenditure; and no resolution of the Council sanctioning the same shall be valid unless or until the same resolution shall have been ratified by a meeting of the Members of the College.

10. The College Hall and Museum, and all other lands and hereditaments, and all the property whatsoever the said College is or may be possessed, are and shall be deemed to be vested in the President or Council in trust for the Members of the College.

11. No such meeting of the Members of the College, as hereinbefore mentioned, shall be entitled to alter the subjects or standards of any examination which the College is empowered to conduct, or to review any judicial act of the Council relating to the professional misconduct of any Member of the College.

12. The accounts of the receipts and expenditure of the College shall be open to the inspection of any Member of the College at all reasonable times.

13. A proper balance sheet shall be prepared by the Council in the month of October in each year, and shall be audited by an independent auditor, and published to the Members of the College on or before the first day of November, and the said published balance sheet shall be authenticated by the signatures of the President and Auditor.

14. An annual meeting of the Members of the College shall be convened in the month of November in each year, to which the annual report of the Council and the published balance shall be submitted.

15. No formula for a by-law or for the alteration of any existing by-law shall be finally passed and ordained by the Council until the same shall have been submitted to a meeting of the Members of the College after due notice thereof, and approved by them.

16. At the next and every succeeding election to fill any vacancy in the Council of the College, any Member of the College shall be eligible to be nominated as hereinafter provided, on the same condition as to the standing necessary for eligibility for election as a Member of the Council shall be subject to be altered from time to time by by-law.

17. No Member of the College shall be disqualified from holding any office in the College by reason only of his not being a Fellow of the College.

18. No Member of the College shall exercise the right of voting at any election of a President, Vice-Presidents, or member of the Council of the College, unless or until he shall be duly registered on the Electoral Register of the College for the time being, in manner hereinafter provided.

19. From and after the passing of this Act, the Secretary of the College shall act as Registrar for the purposes of all elections in the said College, and it shall be a part of his duty to make and correct an Electoral Register of the College in manner hereinafter provided.

20. As soon as may be after the passing of the Act he shall prepare and publish a revised addition of the "Alphabetical Register of the Fellows," and "List of Members," contained in the last Calendar of the College, in which he shall insert in one list the names, present addresses and dates of admission of all the Fellows and Members in such calendar mentioned in alphabetical order, with the following exceptions:—

1. All persons as to whom he shall be satisfied that they are dead, or that they have ceased to be Members of the College.
2. All persons as to whom it shall appear that they have no permanent address in the United Kingdom.
3. All Members not being Fellows who have been admitted to membership since the first of June 18 .

21. As soon as may be, the said revised edition shall be published in the College Hall, and in the *London Gazette*, and in two medical papers, together with a supplementary list of the persons whose names have been omitted on any of the grounds hereinbefore mentioned, and a notice that if any of the persons have been erroneously omitted, they are required to claim personally or by letter that their names should be reinstated within one calendar month.

22. After the lapse of the limited time the Registrar shall embody all necessary corrections forwarded to him in a final copy of the Electoral Register, and shall publish the same in manner aforesaid, as being the Electoral Register of the College for the year 1890, and the same shall thereafter be the Register in force at the annual or any other election until the first of January, 1891.

23. The Registrar shall, not later than May 15th in each succeeding year thereafter, publish a notice in manner aforesaid requiring all persons claiming to be registered, or objecting to any entry in the Electoral Register of the College, to lodge a written notice with him within one calendar month, together with such proof as the Council shall from time to time direct by by-law; but it shall be his duty, without any special notice, to insert in the next following Electoral Register the names of all Members and Fellows admitted during the twelve months next following the said June 1st, 18 , and so in each succeeding year.

24. If the Registrar is not satisfied as to the matters contained in any such notice he shall forthwith inform the claimant by registered letter that his claim is not admitted, and the claimant shall thereupon be entitled to appeal to the Council, whose decision shall be final.

25. The Registrar shall in like manner publish a list in each year of all persons entered on the then existing Electoral Register whom he believes to be dead or to have ceased to be Members of the College, or to have ceased to have an address in the United Kingdom, together with a notice that the names of the said persons will be omitted from the next following Electoral Register unless a claim is lodged by them in manner aforesaid, and the Registrar shall so soon as may be thereafter cause the revised Electoral Register to be published as the Register in force for the year ensuing.

26. The entry of any Member's name upon the current Electoral Register shall be conclusive of his right to vote at any election during the period to which that Register applies, which shall be from January 1st in each year till January 1st following, unless he shall have ceased to be a Member of the College.

27. From and after the passing of this Act all elections for vacancies in the Council of the said College, or for the office of President or Vice-President thereof, shall take place upon the first Thursday in July of each year.

28. At the next and all future elections of a President or Vice-President of a College, the same shall be elected by a majority of the votes of all persons who shall be then entitled under the provisions of this Act to vote in the election of Members of the Council of the College, and shall be duly registered as herein provided.

29. No Member of the Council of the College who shall be elected after the passing of this Act shall be liable to pay any fees upon or by reason of his election.

30. The Council shall in each year, at least thirty days before the said annual day of election, publish in the *London Gazette* and in two medical papers a notice of the forthcoming election and of the number of vacancies to be filled up.

31. Any member who is desirous of nominating a fit person at any such election to be a President or Vice-President or Member of the Council of the College, shall deliver to the Secretary of the College within ten days after the date of the publication of such notice a nomination paper in the form provided by the Schedule hereto, or as near as may be, containing the name and description of the person to be nominated for one of the said vacancies and signed by the Member nominating the said person and by three other Members of the College, duly registered in manner herein provided, and then entitled to vote at the said election. Every such nomination paper shall contain a declaration by the nominating Member that he has obtained the consent of the person whom he proposes as a candidate.

32. No exception shall be taken to any such nomination paper, or to the eligibility of any person so nominated otherwise than by a protest in the form in the Schedule provided, signed by ten Members of the College, duly registered as herein provided, and if any such protest shall within fifteen days after any such person has been declared to be elected be delivered to the Secretary of the College, he shall intimate the same forthwith to all the members of the Council inclusive of all persons (other than the persons objected to) who have been declared elected at the same election and shall convene a special meeting of the Council constituted as aforesaid, at which the signatories to the said protest shall be heard in such manner as the said special meeting may determine, and the person whose election is challenged, or the person nominating him, shall in like manner be heard in reply, and the said special meeting shall forthwith determine the matter in the said protest complained of, and shall either declare any person whose election is challenged to be duly elected, or shall declare his election to be void, and direct a supplementary election to the vacancy so created, to be held on a day not later than six weeks thereafter, and the rules and provisions for the purposes of any such supplementary election shall correspond as far as may be with the rules and provisions hereby enacted concerning the annual election.

33. On the eleventh day after the date of publication of notice of the said annual or other election, the Secretary shall cause the names of all the candidates nominated for election, together with the offices to which they have been nominated and the Members nominating them in each case, to be published in the Hall of the said College and the *Times* newspaper, and shall so soon as may be thereafter cause the same to be published in the *London Gazette*, and in two medical papers, and every such advertisement shall state which of the said candidates, if any, are proposed for re-election, and shall give notice of the place, day, and hour at which the meeting to proceed with the said election will be held, and shall state that any persons duly registered as herein provided is entitled to obtain from the Secretary a form of voting paper for the purposes of the said election, and that he may vote thereat in person, or by returning his voting paper signed by him, so that the same shall reach the College not later than the hour appointed for the commencement of the said meeting for election.

34. At the time appointed for the commencement of any such meeting for election, the Secretary shall produce publicly to the Presidents, or other person presiding at the said meeting, in the first place a copy of the Register of persons entitled to vote at the said election, and then the whole of the nomination papers which shall have been delivered to him in manner aforesaid, together with a copy of the advertisement thereof which he has caused to be published and the said advertisement shall be read from the chair; after which it shall be competent for any person who shall be duly registered as herein provided to apply to the Chairman for a ballot paper stating publicly his name and the date of his admission as a Member of the College, and if the said name appears upon the said Register delivered to the Chairman, he shall be entitled to have a ballot paper delivered to him forthwith; provided always that if any Member of the College shall make objections to him as a person not qualified to vote, he shall be called upon before receiving such ballot paper to sign a declaration in the form in the Schedule provided, and the ballot paper then delivered to him shall have the word "objection" stamped or printed upon the back thereof.

35. The ballot papers shall be forthwith marked by the persons to whom they have been delivered, and deposited by them in a ballot box, which shall be and remain in front of the Chairman for at least one hour from the commencement of the said election, and for so long thereafter as any persons claiming to be qualified shall present themselves, provided that the Chairman may at any time thereafter give notice publicly that he intends to close the election, and if during the fifteen minutes following upon such notice no person shall demand a ballot paper, the Chairman may leave the chair and declare the said election closed.

36. At some time during the continuance of said election, the Secretary shall produce to the Chairman the whole of the signed voting papers received by him down to the time of the comencement of the said election, and the whole of the requests for such voting papers received by him, enclosed in two sealed packets, and shall sign and deliver to Chairman a declaration in the form in the Schedule provided.

37. Upon leaving the chair, the Chairman shall name three persons, not being members of the Council, to be scrutineers, and they shall forthwith proceed, in the presence of any of the candidates or their nominators who may desire to be present, to count the votes given for each candidate by ballot, and shall open the said sealed packets and shall count the voting papers in like manner. Any voting paper may be objected to, and if so shall be marked with the word "objection," and when the said scrutineers have agreed upon the totals of the said votes the Chairman shall forthwith

declare the numbers publicly in the College Hall, and the persons having the highest number of votes shall be declared to be elected.

38. If the number of objections taken is sufficient in any case to invalidate, if they should be sustained, the election of any of the candidates so declared to be elected, the candidate having the next largest number of votes shall be entitled to enter a protest, which shall be forthwith decided on in the manner hereinbefore provided.

39. From and after the passing of this Act all vacancies occurring in the Court of Examiners shall be publicly notified in two medical papers, at least one calendar month before the date of the meeting at which the Council proceeds to elect examiners.

40. Any Member of the College, not being at that time a member of the Council, shall be eligible for election as Examiner, and any ten Fellows or Members of the College may propose the name of a fit person in writing to the Secretary within ten days after the date of such advertisement, and if any such nominations are received they shall be printed and circulated with the agenda of the meeting of the Council at which it is proposed to proceed to election.

41. Any fit person eligible as aforesaid, whether so nominated or not, may be proposed by any member of the Council present at the said meeting, and after all the nominations have been received, the Council shall proceed to elect by ballot.

42. In respect of all casual vacancies occurring in the Council between the date of one annual election and another, the Council may co-opt a Member of the College to hold office, but such Member shall in that case hold office until the day of such next annual election only.

43. *Interpretation Clause.*—In this Act the expression "Member of the College" shall include all Fellows of the College as well as Members of the College not being Fellows. The expression "medical papers" shall mean

. The expression "extraordinary expenditure" shall mean

44. This Act may be cited as the "Royal College of Surgeons Act, 1889."

Any suggestions upon the Bill should be sent to any of the members of the Committee appointed to carry the Bill through the Commons. The Committee consists of the following: Robert Collum, M.D.; W. A. Elliston, M.D.; Joseph Smith, Samuel Smith, George Danford Thomas, M.D.; Dr. Macdonald, Lawson Tait, F.R.C.S.; R. Davy, J. Tweedy, C. M. Jessop, Warwick G. Steele, M.D.; W. Ashton Ellis, J. Holmes, G. Pollock, Sir Guyer Hunter, Sir William Moore, Dr. Farquharson, R. Abud, M. G. Biggs, G. H. Cable, W. G. Dickinson, T. Stretch Dowse, Ralph Gooding, E. Hartley, Jabez Hogg, J. R. Kemp, J. W. B. Mason, C. Royston, W. Donald Smallpiece, John C. Smith, W. Wynn Westcott.

The Law Courts have been appealed to by the Fellows and Members who were threatened with expulsion, and it is significant and satisfactory to find that at once the College authorities hauled down their flag. Sturdy resistance as usual succeeded. This should encourage the rank and file of the profession to support their leaders. Those who have means should contribute; those who cannot afford a donation can give their moral support, and help the honorary secretaries in the hard work imposed on them.

Reviews.

Psycho-Therapeutics; or Treatment by Sleep and Suggestion. By C. Lloyd Tuckey, M.D. London: Ballière, Tindall, and Cox. 1889.

The enlightenment of public opinion under the influence of the scientific spirit, and the recognition of the fact that the phenomena of the visible universe take place in accordance with fixed and ascertainable laws, have conferred a benefit on humanity the extent of which it is hard for us fully to realise. The belief in ghosts and witchcraft entertained by profound thinkers like Sir Thomas Browne is inconceivable in the present day, except among the ignorant; and whatever startling phenomena we may meet with, we approach them fearlessly, fully confident that they can be explained and accounted for by the action of natural forces. Error, however, takes many forms: we often think we have dispelled it when we have only changed its aspect, and the habit of scientific thought may not have progressed without some evils following in its train. Constantly referring phenomena to their natural causes leads men to deny the reality of any phenomena, for which no adequate causes can be assigned, and where individual testimony is too strong to be resisted, a ready explanation is found in the capacity of the race for credulity and fraud. In the *brochure* now before us, Dr. Lloyd Tuckey essays to elucidate a series of doubtful phenomena of this class, and succeeds to a degree that will be variously estimated in proportion to the belief, or otherwise, in the facts, that the reader brings with him to its perusal. If, as is the more probable, he is unacquainted with the phenomena of hypnotism and suggestion, he will find in this little book much that will be new to him, much that will be startling by its strangeness; and before he will assent to the reality of these unfamiliar phenomena, he will demand evidence that they have been investigated with scientific accuracy; he will require them to be described with mathematical exactness. Readers of this class will hardly find the present volume convincing; the use of terms is too vague, the descriptions are wanting in precision. If, however, the reader is, from his experience or his studies, prepared to accept the facts of hypnotism, he will here find many an interesting account of its practice, and some ingenious illustrations of its theory.

The system of hypnotism described by Dr. Tuckey is the one which has been for many years employed by Dr. Liébault of Nancy, and has been elaborated by Professor Bernheim and others who are known as the Nancy school. The first chapter is designed to show the extent to which the mind, dominated by a powerful emotion, is capable of influencing the body, and many remarkable facts are brought together in illustration of this point, the most striking being the well-known case of Colonel Townsend, who was capable at will of inducing a state indistinguishable from actual death. In the second chapter it is shown that this susceptibility of the body to the influence of the mind is largely increased in certain conditions, notably in that form of deep sleep known as somnambulism; in which, under the influence of some over-mastering idea, actions may be performed involving the exercise of a degree of strength or skill of which the subject would be incapable in the waking state. In the third chapter we are shown how the Nancy School employ these facts therapeutically. The problem resolves itself into this: To induce a condition of sleep or somnambulism in the patient

and to supply him while in this state with ideas or dreams such as will tend to health. At Dr. Liébault's dispensary, these indications are carried out somewhat in this way. The patient is seated in a comfortable chair, is told to "think of nothing at all," and to fix his eyes on some special object. "Then the phenomena which attend the on-coming of sleep are gradually suggested to him: 'Your sight is growing dim and indistinct; your eyelids are becoming heavy; a numbness is creeping over your limbs; my voice seems muffled to you; you are getting more sleepy; you cannot keep your eyes open.'" The patient having been in this way sent to sleep, the operator proceeds to supply him with suitable ideas or dreams. "Let us suppose," says our author, "that the malady is chronic nervous headache"—a term, by the way, that does not appear in the nomenclature of diseases drawn up by the joint Committee of the College of Physicians. "The part of the head affected is gently rubbed, so that the patient's attention shall be attracted to it, and he is told that the pain is to disappear—that he will awake feeling his head cool, clear and comfortable, and that there is to be no return of the trouble." On awakening he probably feels quite well, and after a few sittings the symptoms do not return. This may be regarded as the fundamental experiment of the system: for the full details of its employment, and the class of cases to which it is applicable, we must refer the reader to Chapter iv. of Dr. Tuckey's book. In Chapter v. a number of cases successfully treated by hypnotism are quoted from the works of Professor Bernheim and others. Of his own experience of the treatment, the author says but little. His case of acute rheumatism, in which all symptoms disappeared in two days, is not recorded with sufficient detail to be of any value, and before it could be admitted as evidence, would need to be accompanied by an exact record of the medicinal and other treatment employed. We doubt whether in a disease which entails such serious consequences as acute rheumatism, and for which we possess so reliable a remedy as the salicylates, a practitioner would be justified in using hypnotism except in conjunction with the recognised treatment, and this of course renders conclusions as to the influence of the latter, drawn from isolated cases, of no value whatever. Our own limited experience of hypnotism leads us to the conclusion that its phenomena are real and cannot be explained on the supposition of fraud; but that its therapeutic influence, as is the case with so many new remedies, is apt to be overrated; —that, in fact, the operator himself is in danger of coming under the dominance of the idea that his results are more satisfactorily than they really are.

On the whole Dr. Tuckey's task has been well performed. The book sets forth the present state of the subject in a compendious and attractive form, and will largely help to bring treatment by suggestion under the notice of the profession in this country, who will then be enabled to find out and utilise whatever good may be in the system. T. R. Bradshaw, M.D.

On the Relief of Excessive and Dangerous Tympanites by Puncture of the Abdomen. A Memoir by John W. Ogle, M.A., M.D. Oxon. 8vo, pp. 111. London, 1888.

Probably many of our readers may be unaware of the frequent occurrence, in medical literature, of mention of the above-named remedial measure. Dr. Ogle, in the "memoir" before us, has gathered from the records of observers, ancient and modern, and from recent systematic works, notices extending to close upon sixty pages of the literature of the subject. The author, in the year 1871, saw two cases "in which death was apparently the direct result of unrelieved excessive tympanites (no other serious affection being discovered after death; instances as it were of *mors sine morbo*) which determined him not to lose any opportunity of suggesting relief in such momentous cases, after all other means had been tried, by the simple and readily-performed operation of puncturing the abdomen" (p. 6). A successful case determined Dr. Ogle to ascertain "what views had been transmitted by predecessors, and what had been recommended or achieved by contemporaries in connection with the matter." The result of the enquiry is embodied in citations collated from various sources, and contained in the first sixty pages of the work in hand, which is an extension of remarks that had appeared in the *Lancet*, July, 1887. The *modus operandi* adopted by various physicians and surgeons is described. The use of simple trochar and cannula is that which has been most frequently adopted, and appears to have been as efficient as aspiration. The position assumed by the author derives support by illustrations from the writings of practitioners in veterinary medicine and others, of which numerous instances are cited. "Such," Dr. Ogle observes, "are the references to standard authorities and the illustrative cases supplied to me by living practical physicians and surgeons, 'the joint force and full result' of which will, I think, suffice indisputably to indicate the great good which may be accomplished by the expedient, when timely adopted, of puncturing the abdomen with a fine trochar. . . . . Consideration of the references given will show that the weight of evidence, the preponderance of testimony, is in favour of, and warrants this operative measure. . . . . That it is incontestably, when resorted to with circumspection and deliberation, a legitimate procedure, attended by most benign results, one that may be undertaken *tuto, celeriter, et jucunde;* at any rate, that it has strong evidence in its favour as a *dernier ressort*" (p. 85). We would conclude by the expression of the conviction that this memoir constitutes a valuable contribution to practical medicine, as well as a sterling addition to the literature of the medical sciences, to be consulted by all who may require information upon the subject of treatment in excessive and dangerous tympanites. W. B. Kesteven, M.D.

On Syphilitic Affections of the Nervous System; their Diagnosis and Treatment. By T. McCall Anderson, M.D., Professor of Clinical Medicine in the University of Glasgow. 8vo, pp. 89. Glasgow, 1889.

"Is mercury an antidote to syphilis?" is the question that Dr. McCall Anderson has here undertaken to answer. "My view," he observes, "may be thus stated: that just because 'mild' syphilis is apt to be treated in a cavalier fashion, and without due care and persistence, disease of the nervous system is very apt to follow in its wake; and that such disease is much more common than is generally supposed." Dr. Anderson bases this statement upon twenty-four cases which have occurred recently in his practice, of which he has sufficiently accurate records, though they constitute but a fraction of those which have come under his observation. The perusal of these cases, as recorded by Dr. Anderson, will satisfy any reader that they constitute "sufficiently accurate records." The impression made by the perusal is that here we have a master hand at case-taking—a "clinical Professor," who possesses the faculty of seizing all essential

points in every case upon which he bestows his attention. With such qualifications Dr. McCall Anderson must be no slight acquisition to the University of Glasgow.

Having gone through the clinical history of the twenty-four cases of syphilitic disease of the nervous system, to which reference has been made, the author enters upon the consideration of diagnosis and treatment. Under the former the following are the principal points treated of:—1. *The History of the Entrance of the Syphilitic Poison into the System.*—2. *The Discovery of other Manifestations of Syphilis.*—3. *The Discovery of Traces of Bygone Syphilitic Manifestations.*—4. *The Presence, or the History of Pain in the Joints, Bones, or Head.*—5. *The Appearance of the Patient.*—6. *The Age and Sex of the Patient.*—7. *Occupation of the Patient.*—8. *Syphilitic Nervous Lesions are frequently Multiple.*—9. *Variability of Symptoms.*—10. *Certain Fundamental Types in Cerebral Syphilis.*—11. *Eye Symptoms.*—12. *Syphilitic Affections of Other Viscera.*—13. *Results of Treatment.* The subject of treatment is comprised by the author in a few terse paragraphs, the gist of which is that mercury cannot be dispensed with in the treatment of syphilis. "Whenever," says Dr. McCall Anderson, "we suspect that a nervous affection is of a syphilitic nature we should attack it at once with antisyphilitic remedies, and just as energetically as if we were absolutely certain of our diagnosis. A faltering hand under such circumstances is fatal. A very prevalent belief with regard to the treatment of syphilis is that mercury is *the* remedy in the early, and the iodides in the late stages. Now I admit that iodine is *most* useful in the latter, and that mercury is *very* useful in the former; but at the same time I hold that some of the most brilliant results are achieved by mercury in old-standing cases of syphilis, and sometimes after iodide of potassium has failed." The modes in which the remedy has been employed by Dr. Anderson may be culled from the details of the cases that are given in this work. An appendix gives the discussion that took place in the Medical Section of the British Medical Association upon the treatment of syphilitic affections of the nervous system, at Glasgow, in August, 1888.

W. B. Kesteven, M.D.

A Defence of Electrolysis in Urethral Strictures, with Documentary Evidence. By Robert Newman, M.D., New York. PP. 20. Philadelphia, 1888.

The object of this pamphlet is to review some alleged recent failures in the treatment of urethral stricture according to the electric method. Dr. Newman has, he states, applied his method of electrolysis successfully to the treatment of urethral structures for the last nineteen years. Further, Dr. Newman gives the names of many other practitioners who have followed his method. "With such evidence from at home and abroad," the author adds, "it is no longer a question as to the recognition or success of the method. The only point is, what is necessary to constitute a successful operator. For that, it is an absolute necessity to be an electrician and a genito-urinary surgeon." For want of the possession of the combination of these attributes failures have occurred, and have been recorded as objections, fatal to the adoption of the electrolytic treatment. These "failures" and objections Dr. Newman examines, and successfully refutes. One source of failure we may note in the title of a paper on "Electrolysis in Spasmodic Stricture." A spasmodic stricture, as Dr. Newman remarks, "is an ill-advised expression, since mere spasmodic action is *never a* stricture; and electrolysis will not cure or benefit a spasm, but, on the contrary, may cause a spasmodic action, thereby making passage of the instrument impossible." Dr. Newman speaks only of the success of electrolysis in organic stricture. The employment of the galvano-caustic current is obviously inapplicable, and calculated to do harm instead of conferring a benefit. Our readers will find a full and clear exposition of this subject by Dr. Steavenson in the last July number of this journal, from which paper we quote the following observations. "The present method is electrolysis, with weak currents applied at long intervals, resulting in galvano-chemical absorption, known and recognised as Newman's method. Newman not only introduced and perfected the electrolytic method, but also invented and perfected instruments for use in the operations, so that failure in the operation is hardly possible. In England, eminent surgeons so fully comprehend and acknowledge the great value of this method, that it is taught at the medical schools as one of the ways of treatment of urethral strictures." Dr. Newman subjoins several letters from members of the profession who have successfully adopted his method. Had this mode of treatment been known some years back, we would suggest the profession might have been spared the heart-burnings and recriminations, as to the "Perineal Section," that took place between two of the most distinguished ornaments of Scottish surgical science. The judicious employment of electrolysis in the future will prove a boon to sufferers, at the same time preventive, of incurable disease and lingering torment.

W. B. Kesteven, M.D.

The Construction and Maintenance of School Infirmaries and Sanatoria.

This is an excellent little work, prepared by the Council and Medical Officers of the Schools' Association, and should be in the hands of every schoolmaster and every medical officer to a school. It is concise and well arranged, is illustrated by plans, and has a very full index, so that reference to any particular point is much facilitated. The first section deals with the infirmary—its site, construction, foundation, building materials, floors, etc. The general arrangements of the interior, warming and ventilation, water supply, sewerage, and gas pipes, are all questions which have been ably considered; rules are laid down for administration, which, if strictly adhered to, should leave little to be desired. The second section relates to the sanatorium, or building intended for infectious diseases only; this is also treated of in a most satisfactory manner on somewhat similar lines to the first section. Nothing of importance seems to have been omitted, and a surprising amount of valuable information has been condensed into a very small compass.

H. R. H.

Elements of Pharmacy, Materia Medica, and Therapeutics. By William Whitta, M.D., etc. With Lithographs and Woodcuts. Fifth edition. London: H. Renshaw. 1889.

We welcome a fifth edition of this excellent text book. It is admirably arranged and possesses this advantage, that it is useful to the student and practitioner. It tells how pills, mixtures, etc., are to be made and dispensed, how prescriptions are to be written and read. It gives an account of materia medica, whilst the chapters on therapeutics are admirable for their conciseness and soundness. The non-official remedies, which are swelling daily in number, are treated in a separate division, so that the book really ranges over the whole subject. The general practitioner who desires to keep pace with therapeutic advance will find this work an admirable guide both to the old and new remedies.

The Provincial Medical Journal,

APRIL, 1889.

WE published in the last issue of the PROVINCIAL MEDICAL JOURNAL a very important manifesto, evidently directed against the management of the *British Medical Journal*. The action of the editor in publishing a script of the late EMPEROR of Germany was made the peg on which to hang a number of complaints, and the issue of this requisition may be regarded as the outcome of the first agitation. The *British Medical Journal*, by its business management and close attention to its advertisers, has been made an excellent property, its income from advertisements alone being almost equal to what is received from its subscribers. We should not be far wrong in saying that its circulation was three times as great as the *Lancet's*, so that advertisers reap all the advantages which must follow from so large a circulation. But advertisers are not content with simple announcements, for which they have paid: they expect, in addition, some paragraphs pointing out the excellencies or peculiar features of their wares. They are strictly within their rights in asking for notices, if the articles submitted for examination be good, and really worthy of notice. The *British Medical Journal* has always been ready to give notices, and hence it has built up an excellent *clientele* of advertisers. This is clearly, from a business point of view, in every way satisfactory; and if the *British Medical Journal* were a limited liability company, and the shareholders entitled to dividends, and the money now distributed for scientific purposes were devoted to payment of dividends, a vote of thanks would be given to the editor and managers of the paper for their cleverness and ability in securing such substantial proceeds. But the British Medical Association, though a limited liability company, does not exist for the purposes of trade; its journal is not a mere money-making concern beyond a certain point: it cannot exist without financial support. It is within the members' rights to consider whether they prefer to have a purely scientific journal with a small income, or a semi-scientific journal with a large income. The advertisement sheets can be readily cut down by the exclusion from its columns of such articles as vinolia, and other patent medicines, and by the withholding of laudatory paragraphs of all kinds in the body of the journal, and consequently, the receipts will be very materially diminished. There would still remain a permanent income of £15,000 a year from subscribers, and a good income from what may be called pure pharmaceutical advertisements, but the available income would consequently be less. The branches will have fully to consider what diminution of income means before they pledge themselves to support the memorialists.

Exception has been taken to the method adopted by the editor, as regards the non-signing of reviews and leading articles. We are thoroughly in agreement with the petitioners in the matter of reviews. The *Lancet* and *British Medical Journal* reviews are utterly valueless from a literary point of view. The routine style in which the books are usually handled evidently indicate that the reviewing is a mere matter of form. If the reviews were signed, the work would be better done, and there would be some guarantee that the reviewer himself knew something of the subject he undertook to analyse. If we look at the custom adopted by such a journal as *Nature*, we shall see the advantage of the signed review. In that journal the signature to a review is an indication that the work has received the careful consideration of an expert in the same department of which the work treats; and, as a rule, it is more gratifying to an author to have the opinion of a trained mind on his work. Of course, there are a few writers who prefer laudatory reviews, by whoever written. The anonymous review opens out a field for incompetence, slovenliness, and for personal animosity. Reviewers of repute who are willing to append their names, can readily be found, if they be offered adequate remuneration. The *British Medical Journal* is in a position to pay for this kind of work better than it does. This change is one which we hope will be adopted.

As regards the signing of leading articles, we cannot agree with the requisitionists. The journal must have a policy, definite views, and the editorial direction must be clearly indicated through the leading articles. He has the right to modify and alter all the articles submitted to him, and he is alone responsible for what appears in the columns included under the *we*. There can be only one editor, just as there can be only one captain of a ship. If the editorial policy be wrong, then, of course, the management committee should step in, and try to induce him to alter it; but so long as the editor has the confidence of the committee, there is hardly any ground for complaint.

It is no easy matter to feel the pulse of 13,000 or 15,000 members, and accurately record its beat; and the man at the wheel of the *British Medical Journal* must be in a measure independent, and able to steer a clear course, uninfluenced by side winds, doing what is best for the general welfare of the profession, apart from all cliques and parties, and fearless of criticism. This independence may be combined with a conciliatory disposition, and due regard for the opinions of members. A weak man would very soon wreck a journal. Criticism on the work of the British Medical Association is not to be deprecated. We have been pretty outspoken, when occasion required it, on the action of the Council and on the journal; and as regards the present state of affairs, we believe that the Council need not feel any surprise at the action of the requisitionists. It is not very extraordinary that the opinion of the branches should be asked as to the points in dispute. The branches are independent, and quite capable of forming an opinion on any subject submitted to them, and any attempt made to control the branches would be most deleterious to the best interests of the Association.

The influence of Carlsbad water in the prevention and cure of disease has long been practically tested, and various theories as to the *modus operandi* of the waters have been from time to time put forward. Patients who visit Carlsbad are undoubtedly benefited, and those who cannot do so, but drink the waters imported, are also much benefited. Many papers have been written on the use and influence of the Carlsbad waters, and among the more recent and useful is one by Dr. Dumas Leclercq, read at the New York of Medicine, "On the Influence of Carlsbad Water on Uric Acid and Excretion." In this paper Dr. Leclercq detailed the results of a number of experiments on himself and others, and he offers a reasonable explanation of the well-known beneficial effects of the Carlsbad waters on gouty patients. In these patients there is amelioration of the worst symptoms: albuminuria, inflammations of the renal pelvis, nervous troubles, as hypochondria, melancholia, hysteria, disappear. According to Dr. Leclercq these complications are produced by excessive quantities of uric acid dissolved in the blood, and hence by the imbibing of the warm alkaline water which becomes rapidly diffused in the blood, a prompt discharge takes place, the diluted urine which soon becomes alkaline, in a short time removes the surplus acid circulating in the blood. Gouty attacks, formerly frequent, are kept off for some time, or become less intense after a course of the mineral waters. With regard to this therapeutical effect, Dr. Leclercq is not satisfied with the explanation of a washing-out process, but inclines to the view that the diathesis is mitigated. In support of this view the author refers to the researches of Charcot Minkowski, Kossel, Chryonsyecyewski, and Pawlinoff. According to Minkowski the liver has a third function besides that of gall secretion and glycogen formation—viz., the synthetic formation of uric acid. The sulphate of soda, so plentiful in Carlsbad mineral waters, considerably stimulates gall secretion, and also probably influences uric acid formation. From this standpoint, we can understand the direct topical action of Carlsbad on the liver, and explain its recognised beneficial influence at least in many phases and forms of gout. Still more, according to Garrod, these mineral waters are indicated in gout, for the reason that the diathesis leading to its production interferes with hepatic functions; whilst Ebstien recommends them particularly in those forms of gout complicated with plethora or gastric symptoms. We give Dr. Leclercq's conclusions in his own words:

"The compound action of Carlsbad water arises in the first place from the influence of the warm water itself, which, 'when absorbed in large quantities, powerfully stimulates the process of the animal economy and increases the various secretions' (Garrod) and secondly from the salts. With regard to these, the facts placed beyond doubt by experiments are the following: Sulphate of soda produces increased peristalsis and excretion of water, urine, and urea. The cathartic action cuts short, so to speak, complete digestion and absorption of the ingesta. Excretory matters, which would otherwise be retained (and possibly cause auto-infection?), are quicker eliminated than sub norma. Chloride of sodium greatly excites the stomach's functions and induces increase of urine and of the nitrogenous excretion; while carbonate of soda improves the digestive power of the stomach, increases peristalsis, and exalts the natural alkalinity of the blood. If now by virtue of the properties of the constituents of the Carlsbad water, there is an increase of peristalsis and diuresis, and an increased flow of liquids in the tissue, while plenty of out-door exercise and baths are taken, and less food—which is partly cut short, partly eagerly assimilated, owing to a hunger of the protoplasm—fewer products of the regressive metamorphosis will circulate in the blood and organs, while those that circulate are more easily eliminated on account of the diuretic effect and the increase of all secretory functions. Finally, the secretions are not only increased by the Carlsbad water, but also the pressure under which they are secreted is raised by sipping fluids. This is most likely due to nervous influence, for Kronecker shows that a liquid taken in many small sips will for the time completely abolish the inhibitory action of the vagus of the heart. Brunton calls attention to this fact "in consequence of which Carlsbad water, when taken in numerous sips for an hour or more, as at Carlsbad itself, is so exceedingly efficacious in hepatic diseases." This consideration will serve to assist us in explaining how certain predispositions of tissues, like the cartilage, to receive injuries in gout may be effectually combated with the Carlsbad mineral water. The increased pressure just referred to, would be beneficial by increasing the 'vis a tergo' in such organs as have a torpid tissue change, owing to the total absence of blood-vessels or their scant distribution at long intervals between the capillary vessels. The alimentary liquid being now easier renewed the conditions are not favourable for a deposit of urates."

"We must not look a gift-horse in the mouth," is a very old saying, so that, applying this principle, it might appear wise not too closely to criticise or examine the foundation upon which rests the new gift towards the treatment of locomotor ataxy, given by the illustrious Charcot. For the present we must only chronicle some of the facts relating to this new departure, reserving for subsequent consideration the theory upon which suspension is based, for this is an age of theories, though they often run wild. The pathological anatomy of sclerosis in its various manifestations would hardly *primâ facie* incline us to favour suspension as a mode of cure. But we must not on the present occasion run into pathology, but confine ourselves to those many-sided things called facts.

Locomotor ataxy, though we have known cases which have ended in what we might almost call recovery, is not a hopeful disease to treat, more especially when it depends, or is associated with, syphilis, so that any hope of relief of

some of the distressing symptoms, as the lancinating pains, or weak equilibration, and bladder trouble, must be welcomed. When M. Charcot, then, tells us that by means of suspension he has relieved and improved the condition of these ataxic patients, our readers would naturally like to hear how this is effected. Most surgeons are familiar with the suspension apparatus introduced by Lewis Sayre, of New York, and M. Charcot avails himself of a modified apparatus of Sayre. The ataxic patient is placed in the apparatus, which is properly adjusted under the neck, chin, and shoulders, and then traction is applied gently, and the patient is lifted off the ground. The vertebral column is thus acted upon and elongated, whilst the structures of the neck are very severely tested by the strain put upon them. The period of suspension rarely exceeds two minutes, and is carried out on alternate days. The patient is let down in as gentle a manner as possible. Weight plays a very important part in the time the patient is suspended. The personal attention of the physician is required at each operation, whilst a skilled assistant is also absolutely necessary. It is to be hoped that suspension will not become as fashionable as massage, and that we shall not have a mushroom class of rivals of Berry, who would go in for scientific hanging as a profession, for if so we fear that the results will not be in all cases satisfactory. The results obtained by Charcot were published in the *Progrès Médical* of February 23rd, 1889, and they have already attracted the attention of the profession in Germany and England, and Drs. Eulenbrug, Mendel (Berlin), De Watteville (London), Saundby (Birmingham), have adopted the system. The Berlin physicians confirm the encouraging report of Charcot after using the method on twenty ataxics, and De Watteville and Saundby appear to consider the method worthy of trial. De Watteville has made a modification on the suspension apparatus of Sayre, as he does not favour the tripod, though Dr. Saundby is of opinion that the tripod is quite suitable for the purpose. De Watteville has translated Professor Charcot's memoir. We think that the following paragraph is a wise one. "The most sanguine observer must acknowledge that it is entirely premature to come to any definite conclusions upon a point of such deep perplexity as the question of the possibility of absolute cure in locomotor ataxy. Physician and patient alike must beware from falling into the temptation of conceiving exaggerated hopes as to the final results, in the presence even of effects as incontrovertible as those testified by so many critical observers."

In a conversation with a very intelligent practitioner, he raised the following defence for shilling dispensaries: "The whole evil," he said, "arises from the fact that a certain number of medical men are willing to give their services gratuitously. They carry on two kinds of practice—receiving fees at their residences, and prescribing for nothing, not for the poor, but for all classes, at their hospital consulting rooms. One system helping the other, the hospital appointment being really a stepping-stone to success. The hospitals are ruining the profession; for the authorities of institutions getting, what is the prime factor, medical advice for nothing, are utterly regardless of the general welfare of the profession at large; and, trading as they do, are careless as to whether the recipients of this free medical relief are deserving of it or not. If they had to pay for each medical prescription written, even a very small sum, they would not be so ready to scatter broadcast these medical orders. This evil is the parent of all the other evils from which the profession is suffering. It is difficult to suggest a remedy, but there is only one—viz., to make it penal to give free medical advice. As regards the poor there will be no hardship, as the State should, and does interfere. The country is now well supplied with Poor-law medical officers, and England is filled with admirably constructed union infirmaries, besides its dispensaries, for paupers—a name that should be unknown in England—though the pauper is seen at the voluntary hospital in luxuriance, accepting eleemosynary air without a blush. Humanitarianism and so-called philanthropy are largely responsible for the present position of affairs, whilst the teachers and lecturers, who tell students that 'they should be consoled for failure by the consciousness of the nature of their work,' have also a good deal to answer for. From successful men, who have raked in their pile, this advice savours too much of humbug to be swallowed except by Verdant Greens. What can young men do? They see the old and experienced at hospitals greedily appropriating the patients who might fall into their hands. They cannot compete on equal terms, or obtain adequate fees, so they meet the difficulty in this extraordinary competition by opening shilling dispensaries, to which people flock, in large numbers, and they make a living, where otherwise they would be compelled to starve.

"It is a matter of common sense. Young men are intelligent, and can now see that all this high talk about the nobility of the profession is arrant nonsense. Men must live and pay their way. They cannot exist under any other conditions but those which regulate all other professions; and finding the means in the shilling dispensaries, they adopt this system. How will it end? It will end by the establishment of all kinds of these institutions—some for eye diseases and surgery, some for orthopœdics and skin diseases; and in turn, the profession will be brought to such a pitch that the evil will cure itself, but by the very severe process of extinguishing the whole hospital system, which for over a hundred years has been like an incubus on the profession. Why should the younger men care for what is said about them? Have the seniors who hold hospital appointments ever considered their interests?

"The few men, who in all our towns hold the hospital appointments, have hitherto shown themselves utterly regardless of the general welfare of the profession. Now it is the turn of the younger men, and as long as men can

make a good living out of shilling dispensaries, they will laugh at all condemnation, and continue their course of action. Their is nothing to prevent them from charging any fee they choose to accept. The British Medical Association cannot interfere. It started provident dispensaries through its journal, and Mr. Ernest Hart was one of the chief agents in their spreading through the country. What is the difference between a private and public provident dispensary? Not much; one, it is true, is a recognised system, but the profession can, if it likes, adopt both systems. I grant that the profession is deteriorating, and I think that medicine is nearly played out as a profession, and I would not allow a son of mine to take it up as a means of living; but if he did I should instruct him to carry it on on business lines, and he would then make it remunerative.

"You want reform, but you must be fair, and not press on those who are compelled *through evils, not of their own creating*, to take up this line of practice. You have my views, as you have asked for them. One other point. Ask the commercial travellers who go round about their customers. They will tell you that they receive the largest orders from the owners of private dispensaries, whose waiting-rooms are crowded, and they also are good payers. In large towns, like Liverpool, the provident dispensary is a most lucrative system of practice. You don't agree with the system? Well, suggest a remedy. You will find that you will have a difficult task, unless you begin at the root of the evil—the hospitals."

The profession will have to take into account such views as those above published. We are evidently in a very bad transitional state if such views are generally acceptable. But this is not the worst. The hospitals are blamed as being the cause of our troubles, and truly if we may believe the editor of the journal called *The Hospital*, we are threatened with another danger. We are to be supplanted in due time by the hospital nurse and the educated chemist. We are *not* to be effaced, but to be "compulsorily elevated." Here is a sample of how this is to take place, and why: "By a process of natural selection the profession is everywhere dividing itself by sharp lines of cleavage into two classes. There is the cheap class of dispensers who take shops, advertise like any other tradesman, and who to all intents and purposes belong to the lower ranks of chemists and druggists. On the other hand is the more numerous class of educated men, who, while not suffering themselves to be bound by the chains of a merely formal and meaningless etiquette, stand firmly by the best traditions of the past, and bind themselves together into a great army for the advancement of their science, the improvement of their art, and the maintenance of a noble enthusiasm, and a fervent *esprit de corps*." The last few words are conceived in the good old style, so dear to the authors of introductory lectures. The noble profession is evidently between two millstones—but to continue our quotation:—

"The process of adapting themselves to their new conditions cannot be carried out by the doctors without a good deal of privation and suffering. For just as the introduction of machinery made the demand for human labour smaller, so is the rise of the chemist and of the trained nurse diminishing the necessity for the frequent calls and the close personal supervision of the medical attendant. In acute and dangerous cases the morning, and in some instances the evening and mid-day call will be needed as before. But in lingering and chronic illnesses, where the trained nurse is always on the spot to watch and to report, and to send a swift messenger in the event of need, the daily visit will give place to the bi-weekly, or even to the less frequent call. Of course when visits are fewer in number fees will necessarily rise; but they can never rise so high as to compensate for the more frequent calls of former days. The doctor's income, already far too small, must become still smaller, and his struggle for survival still more severe. In due time, however, the reward will come, and the public as well as the medical profession will share in its advantages. As frequent calls upon patients become less indispensable, and fees rise, the doctor will be able to live without such a tremendous strain and expenditure of energy as he is now compelled to endure. He will have both leisure and strength to do that without which the ablest man in the world cannot keep pace with the best progress of the times. He will be able to read and to study, and, what is as necessary as either, to meet his professional brethren in frequent and friendly conference and discussion.

"The public at large have a much more immediate and practical interest in this question than they suppose. The medical profession has always offered a career to a certain proportion of the clever youth of the country. With the rise of the trained nurse and the educated chemist the field for doctors is necessarily very much limited in area, and the prospects of success, or even of a livelihood, are correspondingly diminished. There seems to be as yet no general comprehension of this fact; because young men are flocking to the gates of the profession in increasing numbers year by year. Of course, a medical education can by no possibility do those young men any harm—on the contrary, it may be of very great service to them. But it is certain that many of them will never make use of it as a means of earning a livelihood, because it will not be worth their while to do so. To all those, therefore, whose means are limited, and whose resources will not enable them to qualify for a second profession if the first they choose should fail them, the advice is given with much seriousness—to think well before they adventure themselves upon a medical career. The number of candidates for medical openings is, owing to the causes we have indicated, still more rapidly diminishing. When men increase in excess of the demand for their services there is but one result possible—starvation for many, and keen competition for all."

The concluding words are plain enough. Hospitalism, if it has to land the profession into such a state as above described, should be at once supressed in the interests, not of the profession, but of society at large.

Annotations.

"Forsan et hæc olim meminisse juvabit."

GENERAL MEDICAL COUNCIL MINUTES.

Volume 24 of the Council's Minutes for the year 1888 is now ready, and includes four appendices, one consisting of the Fourth Report by the Statistical Committee, containing a census (with diagrams) of the registered medical practitioners in England and Wales for the years 1881 and 1886; another consisting of Documents relating to a Memorandum by the president on the Disciplinary or Penal Powers of the Qualifying Medical Authorities and of the General Council (a subject which is further considered and developed with a suggested amending Bill, on pp. 11-24 of the confirmed minutes of the Executive Committee of Feb. 25th, 1889); and a third appendix giving the Inspectors' Reports and General Commentaries on the different Final Examinations; together with remarks thereon by the Bodies inspected.

THE MEDICAL REGISTER.

The "Medical and Dentists' Registers" and the "Students' Register" for the current year, were published on Saturday, the 9th March. The "Medical Register" has been subjected to the most thorough revision, and has been made complete according to the latest possible information. In addition to all the Medical Acts from the year 1858 down to the most recent Act of 1866, it will be found to contain much statistical information, including a table showing the total number of practitioners registered from 1858 down to the present time, and the number now remaining on the Register—viz., 27,936; and a table showing the qualifications granted by separate or conjoint examining Bodies, which entitle the holder to primary registration; and further, a table giving a list of the several foreign degrees in medicine which are now registrable, as additional titles, by practitioners previously registered. The "Dentists' Register" has been carefully corrected also to the latest possible date, and contains information as to the number of practitioners whose names now appear in it, either as Licentiates of the various Licensing Bodies, or as having been engaged in practice before the passing of the Act: the percentage of Licentiates being increased to 20.83 of the whole number, and that of those registered only "as in practice before July 22, 1878" being reduced to 78.46. The List of Dental Students, formerly published at the end of this Register, has been removed, on the representation of the British Medical Association, for while the object of its publication was to afford useful information in regard to those studying for the profession until these names could be taken out of the list of students and inserted in that of practitioners, it was found to be used by some to convey the misapprehension that they were already registered practitioners. The "Medical Students' Register" as usual gives, in addition to the list of those registered during 1888, statistical tables showing the relative numbers in which students passed the several recognised preliminary examinations entitling to registration, and the various places of medical study where they commenced their professional course.

THE INTERCOLONIAL MEDICAL CONGRESS.

It is gratifying to us to be able to congratulate the profession of Australia on the success of the second International Medical Congress, which commenced its sittings at Melbourne on January 7th. The proceedings were opened by His Excellency Sir Henry Lock, K.C.B., Governor of Victoria. visitors were received by the Hon. W. D. Gillies, Premier of Victoria. The Congress was fortunate in having as president the well-known surgeon, J. H. Fitzgerald, who is not only the most illustrious surgeon in Australia, but who has a world-wide fame; and his address was well worthy of the occasion, and well deserved the reception accorded to it. The proceedings came to a close on January 12th. The next sitting of the Congress will take place at Sydney in 1892, under the presidency of Dr. H. N. MacLaurin. The Congress was divided into the usual sections, and there was an ample supply of material and of members.

ADVERTISING IN LAY PAPERS.

The British Gynæcological Society is to be congratulated on the resolution passed at the meeting on March 13th, condemning the advertisement of medical works in lay papers. The resolution, proposed by Mr. Lawson Tait and seconded by Dr. Granville Bantock, was general, without any personal bias, and without mentioning any names. The medical journals afford ample opportunity for authors to make their works known to the profession; and to appeal to the lay public, especially with works that deal with diseases of women, savours of quackery of the worst kind. Many shafts have been aimed at gynæcologists, and much discredit has been brought upon them by a few black sheep, so that the efforts of the British Gynæcological Society to keep its fellows pure will be appreciated by the profession.

HYDROPHOBIA IN GERMANY.

During the year 1888, only four deaths from hydrophobia were recorded in Germany. This result is significant, more especially as Germany did not send any patients to Pasteur, and is without a Pasteur Institute. When we look at the extent of country and its close proximity to the French frontier, this low mortality is all the more remarkable, and more especially in view of the thousands of French people who are reported to have been bitten by rabid dogs. The French have much to learn, and they should send a commission to Germany to enquire how the Germans manage to have such a low death-rate. To us the explanation is simple. So far back as 1881 we explained how hydrophobia may be prevented.

MAMMONITE THRIFT.

Punch has contributed the following admirable diatribe against infant slaughter, a subject we have often written about.

(The Right Hon. W. H. Smith on his way to the House of Commons with the Estimates under his arm) :—

Mr. Punch—"Estimates! Yes, but there's something further for you to look after, Mr. Smith—the surplus population!"

"When a Mammonite mother kills her babe for a burial-fee,
And Timour-Mammon grins on a pile of children's bones."
Tennyson's "Maud."

"The strongest statement in favour of infant insurance is that it encourages thrift.—*Mr. Braxton Hicks on Infantile Insurance.*"

"It is clear, he remarks, that to allow a poor parent to effect an insurance on his child's life gives him a direct interest in its death."—*The "Times" on Mr. Braxton Hicks' Letter.*

"Thrift, thrift!" O convenient Death!
Wise counsel he whispereth under his breath
Into pitiful poverty's ear!
Poverty makes even parentage keen
At catching his sinister hints. 'Tis a scene
For a new *Danse Macabre;* that bald bony nowl
Crape-canopied craftily set cheek-by-jowl
With the conscienceless vassal of Beer.

"Thrift, thrift!" It is surely the last subtle shift
Of the Spectre to pose as a preacher of Thrift!

True, Mammon and Mors have been ever allies;
But here is a scene that might almost surprise
The Moloch for whom they both cater.
The cynical grin of the fiend of the flame
Might melt me to a look of compassionate shame
At sight of the Golden God's last little game,
Which should bring a hot blush to a satyr.

QUACK MEDICINES AND RELIGIOUS PAPERS.

Religious journals in England appear to make a speciality of securing quack advertisements, and we learn from one of our exchanges that in the United States the same class of journal cultivates the patronage of the quack. Dr. T. C. Minor puts the matter very clearly. "Without such 'ads.' theological journals would not thrive in the United States; and this tendency to perpetuate fraud through unscrupulous journalism has now extended like a pestilence to the lay journals of the land. The mischief wrought by these foul destroyers of soul, mind, and body is incalculable; they are corrupters of morality, the insidious iconoclasts of public virtue and the paid agents of vice; the price of the 'ad.' soothes each drowsy conscience in a land where the struggle is for wealth, no matter how close the victim grazes the penitentiary bars in the pursuit of gain. The religious journals of the country have for years been the panderers to the vendors of abortive remedies; Christ is crucified in one column and pennyroyal and cotton-wood pills praised on the opposite page. It is no wonder that physicians, year by year, are evidencing a wider tendency to denounce religious and so-called moral journalism. The most sensational morning journal in the country would modestly shrink from publishing the filthy 'ads.' found in some of the religious weeklies of the United States, where the 'retired clergyman, ruined by early indiscretion,' etc., publishes his cards with the holy address of 'Bible House,' New York. It seems to be a popular belief that the regular medical profession objects to patent medicine because it interferes with their practice; such is not the case, for these nostrums are largely responsible for the Bright's disease and bladder troubles of this country. Every dozen bottles of patent medicine sold over the druggist's counter makes a patient for the doctor. It is not difficult to cure disease sometimes, but the present epidemic of patent medicine damphoolery, nurtured and fostered in the interests of the various churches of America, should be restrained. If clergymen desire respect for their calling, they should preach what they practice. The 'Bitters' in the study closet, while an aid to preparing the usual dull Sunday sermon, have enough alcohol in them to induce the clerical cirrhosis of the liver, or theological brain softening, which seems to be a common complaint just at the present period."

HIGH *VERSUS* LOW DRESSES.

The low dresses so much in fashion have been the cause of much illness, frequently followed by death; but the tyrant fashion has required her victims, and under her car of Juggernaut women have prostrated themselves, and have thus been virtually sacrificed. It is useless for medical men to cry out against fashion, though it is our duty to do so. We have forbidden in India the sacrifice of women to their husbands' manes. This seemed to us a horrible sacrifice. Sacrifices to fashion in this country are so common that we do not mind them. The intelligent Chinaman who has been investigating our habits, might well wonder at some of our fashionable customs, and might truly tell us that reform is wanted very much indeed in the toilets of our women.

SUPERANNUATION OF POOR-LAW MEDICAL OFFICERS.

After fifty years' service under the Thetford Board of Guardians, Mr. Archer, Medical Officer, was refused superannuation. To the credit of the Board the resolution was subsequently rescinded, and we believe he has since obtained it. Superannuation is accepted in principle by the Local Government Board; but unfortunately the little word "may" stands in the Act, and the Guardians too frequently indulge their economical tendencies by interpreting the Act in the way they like. We are able, however, to point to many Boards which have interpreted the Act in a liberal manner, by granting superannuation to deserving officers. It is not always possible for a medical officer to make provision against old age or sickness. However provident he may be, exigencies arise which destroy all possible foresight. "Shall" for "may" is all we want.

THE ABUSE OF MASSAGE.

AT the meeting of British Gynæcological Society on March 13th, Dr. Macnaughton Jones made an able and trenchant attack upon the abuse of massage. Like all fashionable modes of treatment, it has been taken up by *entrepreneurs*, who saw in it a chance of making money out of the credulous; and we regret to say that within the professional fold there have been found a few who have laid themselves open to suspicion. The advantages of massage are indisputable, its abuse is also indisputable. Its extension to the gynæcological department of medicine has led to the most deplorable abuses. The "speculum" practitioners are nowhere compared with the professors of vaginal and abdominal massage. The timely warning given by Dr. Macnaughton Jones will, we trust, be productive of great good.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.

THE annual festival dinner was held at the Holborn Restaurant, on March 16th, when a large number of members, and many distinguished guests assembled. The attendance was larger than at any previous meeting of the Society, 120 sitting down to dinner, which was of a most sumptuous character. Dr. Fegan, Blackheath, took the chair, and he was supported by the ex-president, Professor A. Macalister, Cambridge; Dr. Quain, London; Mr. G. A. Sala, Dr. Macnaughton Jones. The Society is increasing in numbers and usefulness, being now 600 strong. It has won for itself an excellent position in the medical world; and by its late action in asserting the claims to equality of Irish qualifications, it has earned the gratitude of all Irish diplomates. We hear that there will probably be a meeting of the Association at Manchester, which we hope will bring a large accession of strength to the Society. The great exertions of Dr. Stewart, who has done so much to the building up of this Association, were justly eulogised by one of the ex-president, Dr. Macnaughton Jones, who has himself done so much to popularize the Association.

THE VOLUNTEER MEDICAL STAFF.

THE exertions of the Volunteer Medical Staff in the metropolis to render themselves efficient, and to promote in every way the welfare of the volunteer medical officers, should incite the extra metropolitan officers to rivalry. Whatever we have won in the way of recognition from the War Office is due, in a very large measure, to a few active members, and the least we can due is to give support to those to whom we owe so much. The Volunteer Medical Association will be pleased to receive fresh members.

WORKMEN'S WEEKLY CONTRIBUTIONS TO HOSPITALS.

IT is no wonder that hospitals are in debt. They are simply managed on uncommercial principles; they try to do too much business on a limited capital, and to give away more than they receive. They invite working men to contribute, offering them all the advantages of free medical advice. The working man contributes a mite, and he expects a return, which he obtains nearly a hundredfold. Hundreds flock to each local infirmary who are well able to pay for private medical advise or assistance. If an official speaks to one of this class, he is told that owing to the subscriptions given advice is asked for as a right, and if it be refused the subscriptions will be withdrawn. In the face of hospital difficulties, money is only too eagerly sought for, and the hospitals, like bankrupts, clutch at the straws by which they hope to be saved from ruin, though they are only sinking deeper into debt, and injuring themselves as well as the general profession.

THE ARMY MEDICAL SCHOOL AT NETLEY AND ITS WORTHIES.

THIS was the subject of an able address by Surgeon-general Maclean, C.B., at the Medical School, Netley. He dwelt upon the work done by Sir Ronald Martin and Parkes, and other worthies who shed a lustre upon the Army Medical Service. The Martin Memorial, he said, perpetuated the name of a man who was cast in a heroic mould, and was one of a service that had produced many men of mark who had faithfully served the State. Speaking of Mr. Parkes, he said, with the science he made his own, his name would be imperishably associated, and the youngest among them knew how well his important work on hygiene was kept up to the highest level of advancing science. In a long life, Dr. Maclean said, it had never been his fortune to meet a man in whom the intellectual and moral faculties were so well balanced as in Professor Parkes. It is thus that the memory of our worthies should be kept green.

A NEW ANIMAL VACCINATION STATION.

DR. WHITESIDE HIME has opened at Bradford a station for the supply of pure animal vaccine; and from a letter received he tells us that:—

"In order to learn the best method for cultivating it I have recently visited the best stations in Belgium, Holland, and Germany, as well as the Government Station in London. The calves are all carefully selected, and are examined and approved of by an experienced Veterinary Surgeon (Mr. J. S. Carter, F.R.C.V.S., Chief Veterinary Inspector under the Privy Council for the East and West Ridings of Yorkshire) before being operated on. The vaccination of the calves, and all the details of the preparation of the lymph, are carried out by myself personally, to ensure the best results, and only lymph which is fresh, pure, and active, is sent out. The source of my lymph is a recent spontaneous case of cow-pox, which occurred at Bouge, near Namur, in Belgium. It has, therefore, never passed through any human subject, and its use precludes the possibility of infection by any disease likely to be transmitted by humanised lymph taken from an unhealthy subject. Lymph from the same source as that which I use is now employed at the Park Vaccinogène (Calf-lymph Station), Brussels, and is supplied thence by the Government to medical practitioners throughout Belgium. I can supply you with the lymph in sealed capillary tubes; dessicated on 'points'; between glass 'squares' hermetically sealed; pulverised (so-called 'Reissner's Powder'); as 'Conserve,' glycerized, or in any other form you may specially desire. Should you wish to use the excised 'pock' (the Neapolitan method) it will be forwarded to you, on a couple of days' notice."

PASTEURIANA.

The latest results of the Pasteurian treatment this year are not satisfactory. The year has opened very badly indeed for the Pasteurians. We gave particulars of three deaths in our last issue (p. 179), and we have unfortunately to again have to add to the list of deaths. Of course we have the plea raised that cases that have died have been very severely bitten. This is the exact truth, and is a very good defence; but more should be added—they are also infected; so that it comes to this, that those who are infected die.

Case IV.—Druaux, æt. fifteen years, of Abbervilliers, bitten on January 7th, 1889. Treated from the 9th till the 28th of January. On the 7th of February brought to the Hospital Lariborsiere. Died of rabies on the 11th of February.

Case V.—Dufort, æt. 72 years, bitten very badly on December 22nd, 1888. Treated from December 25th till January 12th. On February 9th, developed symptoms of hydrophobia, and died on February 15th.

These facts are taken from *L'Union Médicale*, March 9th, 1889.

New Remedies.

Eschscholtzia californica—A number of physiological experiments have been made with this plant, in the form of an aqueous alcoholic extract, first upon animals, and subsequently upon patients in the Cochin Hospital. Dr. Ter Zakariant reports that the plant possesses valuable soporific properties, and is useful as an anodyne in some cases, whilst it does not possess the inconveniences attaching to the use of morphine. These properties appear to be due in part to morphine, and partly to a glucoside and an alkaloid hitherto undescribed, which have been detected in it by Messrs. Adrian and Bardet quite recently. It had previously been observed that an extract of the plant produced an effect in cold-blooded animals which could not be obtained by the use even of large doses of morphine. The plant, which is commonly cultivated in gardens in this country, belongs to the same natural order of plants as the poppy.

Picrotoxin has been the subject of some experiments by Professor Bokai, who finds that it acts antagonistically to morphine on the centres of respiration, and on the spinal cord small doses of picrotoxin being sufficient to prevent the paralysis of respiration caused by morphine, or to remove it when it appeared. The stimulant action of picrotoxin on the vessel-contracting centre of the medulla oblongata was also found to counteract the rapid fall of blood pressure, which forms so serious a symptom in poisoning by morphine. Professor Bokai therefore thinks that it would be the most rational antidote to opium poisoning.

The *meconarceine* which has recently been introduced in commerce, in the form of a yellowish liquid, appears to be a mixture of codeine and narceine, with an acid soluble in ether, but which was not identified. A second preparation, of German manufacture, passing under the same name, or sometimes under that of narceine meconate, consists of a mechanical mixture of narceine and meconic acid, apparently in the proportions to form an acid meconate of narceine.

Phenyl propionic and *phenyl acetic acids* have been tried at the Brompton Consumptive Hospital by Dr. C. T. Williams, with the view of destroying the tubercle bacillus. About four years ago it was found by Drs. Klein and M. Lingard that tuberculosis matter of known infective power steeped in a half per cent. solution of either of these acids was rendered inert, and could be introduced into the tissues of a susceptible animal without any ill-effects following. Twenty patients suffering from phthisis in various stages were treated with phenyl propionic acid by Dr. Williams for periods varying from twenty-eight to eighty-five days. Of these cases thirteen improved, four remained stationary, and three became worse. The dose given was ten minims of an alcoholic solution diluted with one per cent. of water, increased to twenty minims in two ounces of water, three times a day. The medicine did not cause either vomiting or anorexia when diluted with water.

Phenyl acetic acid was similarly tried on nineteen other patients suffering from phthisis, of which number thirteen improved greatly, four deteriorated, and three remained stationary. Those who improved gained in weight, strength, and colour, and the cough and expectoration was diminished. The dose given was ten to twenty minims of an alcoholic solution three times a day, for periods ranging from twenty-one to eighty-nine days, and in no case were any unpleasant symptoms observed. Both these acids are soluble in about six parts of alcohol, and both have an acid reaction, which is stronger in phenyl acetic acid.

Dr. Williams concludes, as the result of his experiments, that these disinfectants given in phthisis promote appetite, digestion, and assimilation, and are well tolerated in considerable doses, and that the use of phenyl propionic acid is likely to be useful in excavation cases, and phenyl acetic acid in cases of tuberculisation.

Salol.—A new use for this antiseptic has been suggested by M. Loewenthal. It has been stated that this antiseptic specially exercises its properties after it has come in contact with the pancreatic juice. He has observed that the cholera bacillus, which is inactive as a poison when cultivated in peptonised broth, becomes active if cultivated in pancreatic secretion. He has pointed out, therefore, that as salol will kill the cholera bacillus in a paste containing pancreatic juice, and as the cholera bacillus probably passes through the stomach without activity, but commences to cause the formation of a poisonous ptomaine when it comes in contact with the pancreatic juice, salol seems the most suitable antiseptic to give them. M. Loewenthal has shown that it is by no means dangerous, as he has taken two five-gramme doses in one day.

Condurango bark has been chemically examined by Professor Kobert, who finds that it contains two or three glucosides and a resin, all of them manifesting the same action. These substances form collectively the condurangin found by Dr. Vulpius. It coagulates when heated in an aqueous solution, even at 40° C., and like albumen, is precipitated from an aqueous solution by sodium chloride. Its action on the central nervous system is decidedly a poisonous one. In small doses it produces symptoms like those of tabes dorsalis in ataxic change of gait. It also appears to act on the peripheral nerves and muscles, at first increasing and then depressing their electric excitability. Loss of appetite, and in the earlier stages a plentiful flow of saliva, as well as vomiting, are constant symptoms in mammals. The poisonous dose of condurangin is about 0.02 gramme per kilogramme of the body weight for carnivorous animals, and about three times as much for herbivorous animals.

Sanguisorba officinalis, in the form of an infusion of the flowers, is highly spoken of in the *Pharmaceutische Post* as a remedy for chronic stomachic catarrh. In a case of a year's standing, which was accompanied with heartburn, a cure was effected by this simple means.

Eserine sulphate is said by Dr. Reiss to be a useful remedy in cases of chorea. He gives it in the form of an hypodermic injection, $\frac{1}{12}$ of a grain being injected twice daily. In a number of cases the cure was effected in five or six days, but it was less successful with adults. It was also found beneficial in tetanus, paralysis agitans, spinal sclerosis, and in a case of hysteria in the male, accompanied by great excitability and a remarkable increase in reflex movements.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. KESTEVEN, M.D.

Accidental Poisoning by Cocaine (*Journal de Medécine de Paris*, February 3rd, 1889).—A child, four years of age, took by mistake for coffee, a teaspoonful of solution of cocaine (about twenty-five centigrammes). No immediate effect ensued, but an hour afterwards she suddenly waked up in distressing anguish, pale face, eyes haggard, breathing irregularly, with a feeling of nausea, pain at the upper part of the chest, sense of formication, and cramps, then a choreic agitation. The child was as if drunk, and was the victim of terrifying hallucinations. M. Moizard saw her two hours after having taken the poison, and prescribed an emetic, which brought away the contents of the stomach. An enema containing fifty centigrammes of chloral was administered, and two hours later another enema, with thirty centigrammes of chloral. The excitement subsided and the patient slept, though during the night frequently disturbed by choreic movements. These gradually subsided, and by the next day the child was in its ordinary condition.

Hereditary Transmission of Saturnism (*Gazette Hebdomadaire des Sciences Medicales de Bordeaux*, February 3rd, 1889).—The following instance of this morbid condition was related to the Biological Society of Paris, by MM. Hermann Legrand and L. Winter. The child was born of parents both of whom were the subjects of lead poisoning. It was emaciated, of a cadaverous complexion, weighed 1,020 grammes, and lived only fifteen days; at the autopsy all the viscera were found diminished in volume and weight. Microscopical examination showed cirrhosis of the liver. Micro-chemical tests (iodine, chromate of potash, and sulphide of ammonium) exhibited the presence of lead in sections of the liver. Six grammes of the liver contained one gramme of the metal. The entire liver weighed forty-five grammes. The kidneys showed interstitial proliferation and epithelial degeneration. This case shows the transmission from mother to offspring of a poison considered generally to be insoluble, producing lesions incompatible with life.

Suture of the Patella (*Le Progrès Médical*, February 2nd, 1889).—At the meeting of the Société de Chirurgie, Paris, M. Vermisson exhibited a patient, æt. fifty-eight years, upon whom he had performed suture of the patella. The fracture occurred in July, 1888. The separation was to the extent of 4 cent. Compression was tried, then the "claw" of M. Duplay. Soon afterwards rupture of the callus happened. Suture was then effected with silver ligature. Cure took place with slight stiffness of the joint. The limb was fixed with plaster, and immobility of the fragments obtained. M. Champonniere stated that he had several times effected suture in cases of fractured patella. The proper treatment, he urged, is immediate suture. At the end of fifty days the patient will walk satisfactorily. There will not then be any consecutive atrophy. The general health, age, obesity, anterior lesions, may furnish contra-indications. Sutures should always be employed when the patient can have them. Fixing the joint M. Champonniere considers to be useless. He employs usually three silver ligatures, with a firm network, capable of firmly holding the fragments, while callus may or may not form.

A Cause of Tetanus (*L'Union Médicale*, February 7th, 1889).—This question has recently been discussed at the Société de Medicine de Paris. M. Abadie taking up the theory of M. Richelot which attributes an equine origin to tetanus, pertinently asked for an explanation of the occurrence of tetanus in countries where horses do not exist? Why, also, M. Abadie observed, is the disease so rare in rural populations where traumatic lesions of all kinds are so frequent, and where the people live in near contact with dung heaps. The doctrine of microbes has not yet solved the question, as observed by the reporter of the discussion. "It did not suffice to show the presence of a microbe in a disease; it must be shown how it take its birth, how it lives, and how it dies." To write the natural history of any of this minute organisms is no slight task, but the progress already made affords hope for the future.

Antisepsis Neonatorum. Dr. A. Epstein (*Centralblatt für Chirurgie*, February 9th, 1889).—Dr. Epstein dwells upon the danger that accrues to both the new-born infant, and to the puerperal parent from neglect of antiseptic measures. The mortality of infants from septic infection, was, Dr. Epstein points out, formerly attributed to spontaneous intra-uterine infection, but this theory must now be abandoned since it can be shown that infection enters the infantile circulation from without. The most frequent point of admission being the umbilical cord, which during the first days is obnoxious to inflammation and ulceration; whilst the remainder of the divided cord is undetached. Other sources, or modes of entrance of infection are the mouth, the genitals, and the accidental injuries to the external surface of the body. To protect the umbilicus Dr. Epstein has employed antiseptic bandages prepared with salicine, iodoform sublimate, in both liquid and dry forms, precautions being observed against the neglect of antiseptics by attendants. Permanganate of potash is added to the first bath for the use of the infant.

Examination of Fœtal Blood at the time of Birth. By D. Scherenziss (*Centralblatl für Gynäkologie*, February 9th, 1889).—The following are the author's conclusions: 1. The fœtal blood has a lower specific gravity than that of the adult. 2. Fœtal blood is deficient in hæmoglobin, and on the other hand rich in stroma. The proportion of the hæmoglobin is to that of the adult 76.8-100. 3. The fibrin of fœtal blood is relatively to the maternal blood at 2-7. 4. The fœtal blood is not suitable for quantitative analysis by diffusion in saline solutions, the elements of the blood-globules, especially the hæmoglobin become disintegrated in the saline solution. 5. Fœtal blood is richer in salts than adult blood; there is a marked preponderance of chlorides and salts in the serum. 6. The fœtal blood has a larger proportion of sodium, and is, relatively, poorer in potassium than adult blood. 7. The quantity of uncombined potassium and sodium in fœtal blood, is notably less than in adult blood. 8. The sex and size of the child do not appear to have any influence upon the quality of the blood at birth.

Hypnotism and Suggestion. By Dr. B. H. Stephan (*Alienist and Neurologist*, St. Louis, January 7th, 1889).—Dr. Stephan gives a cursory glance over the history of hypnotism, mesmerism, etc. We quote his closing remarks:—"It is quite generally accepted that hysteria and neurasthenia are much closer related to psychoses than to organic nervous diseases. That these psychoses in some instances arise reflexly is beyond all reasonable doubt; but in many instances they are brought about more or less directly, and are presumably dependent upon a functional disturbance of the cerebral gray matter. It is against the latter form of psychoses that it is proposed to make use of hypnotism and suggestion; but even in these cases, this method, though often removing symptoms, may not act curatively on the original disease. It is almost certain that neuropathics, labouring under the fixed idea that they are subject to this or that form of disease, often succeed in developing the symptoms properly belonging to it. Neurasthenia is either inherited (this is by no means rare in these days of fast living), or has resulted from the influence of social embarrassments, business reverses, loss of property, pressing cares, disappointed hopes, unsatisfied ambition, family troubles, grief, etc.; and in such a soil, under the suggestive influence of a fixed idea, a functional disorder of some kind has taken root and developed itself; but though suggestion has really played an important *rôle* in originating this trouble, an exclusively psychic treatment, by means of hypnotism and suggestion, will generally have little or no effect, inasmuch as the pathogenic idea has been developed in a soil which remains uncultivated, and in the midst of surroundings and circumstances which do not change; and thus it is that the isolation of the patient becomes a primary necessity in order to give to therapeutic suggestion a chance of permanent success. Isolation—the removal of the patient from the environments in which his troubles began—is one principal resource in the treatment of hysterical neurasthenics. . . . If I should try to give a *résumé* of my opinions, as expressed in what has gone before, it would read somewhat like this:

1. The experimental study of hypnotism deserves undivided medical interest and attention.

2. It is not improbable that in the suggestibility of hypnosis an important therapeutic agent will be found to have been discovered.

3. As there are dangers connected with hypnotism, and as no positive indications for its application have as yet been given, prudence bids us be very cautious in its use.

4. At present there cannot yet be any question as to the applicability of this method to any but dynamic disturbances; but, though the probability is not great, the possibility that even organic affections may not be entirely beyond its reach must by all means be kept in view. Facts, however, are still wanting which may be considered as having positively demonstrated its efficacy in such cases.

Pregnancy in the Rudimentary Horn of a "Unicorn" Uterus (*Centralblatt für Gynäkologie*, No. 5, 1889).—The patient, twenty-nine years of age, had borne three children at the full period. Her last menstruation occurred on the 7th November, 1887. By the month of February the uterus was enlarged, but not uniformly. After the fourth month, by which time it had attained the form of a tumour of about the size of a child's head, violent uterine pains came on, together with

symptoms of internal hæmorrhage. Laparotomy was performed by Professor Slaviänsky. A large quantity of blood was found in the abdominal cavity. Pregnancy had taken place in the rudimentary uterine horn, on the posterior surface of which was a laceration. Hæmorrhage had taken place from a sub-peritoneal vein. The fœtus was of about the usual size at four months. The patient died in four days from general peritonitis.

Chronic Cocainism (*Le Progrès Médicale*, February 2nd, 1889). At the meeting of the Biological Society, Paris, January 26th, M. Magnau read an important paper upon chronic poisoning by cocaine. Instances of acute cocainism have been studied by physiologists on the one hand and by surgeons on the other. Chronic accidents are less known, but present especial features, which are noted in the following cases:

Case 1.—A merchant, æt. forty-eight, had, on account of nephritic pains, commenced the use of morphia in 1878. In order to cure himself of the habit, he, in 1886, commenced the use of hydrochlorate of cocaine, the dose of which quickly reached to a gramme. Symptoms occurred which alarmed him; he suffering from illusions of hearing, jerkings of the limbs, etc. In consequence of the occurrence of these symptoms he resumed the morphia for six months, when he returned to the cocaine, and the hallucinations occurred. He experienced sensations as of blows and pricking on the surface of the body, with diminution of sensibility. In the course of a short time (?) he became epileptic.

Case 2.—A Pharmacien, æt. forty-four, in 1884 was taking morphia for colicky pains. In 1887 he began with cocaine, and became the subject of symptoms similar to the preceding, followed by epilepsy.

Case 3.—A physician, æt. thirty-nine, took morphia for neuralgia, but had no sensorial troubles. In 1887 he commenced with cocaine and reached a dose of two grammes; he then suffered haullucinations of sight and hearing with impairment of cutaneous sensibility.

These three cases show that the action of cocaine is different from that of morphia, and resembles rather that of absinthe or alcohol, with this difference that the poisonous effect of cocaine is exerted upon the cerebral cortex, taking its course from the occipital lobes towards the sensorial centres, the reverse of which obtains with alcohol and absinthe.

Menstruation—Its Nerve Origin; not a Shedding of Mucous Membrane. By James Oliver, M.B., F.R.S. Edin. (*Alienist and Neurologist*, St. Louis, January, 1889).—Dr. Oliver points out that this monthly phenomenon is the result of changes in the condition of the nerve supply, manifested by symptoms of a general character. "With the approach and appearance of the monthly flow the whole frame, as one would naturally expect, participates more or less in the change, and the amount of disturbance experienced as well as manifested is commensurate with the power the organism possesses of adaptation." "The true nature of the catamenial discharge is still conjectural," Dr. Oliver remarks, "yet its elimination from the body renders it highly probable that having already served some special end, its detention in the blood may exert some deleterious influence upon the animal economy." Dr. Oliver doubts that ovulation and menstruation are coincident. "It is alleged," Dr. Oliver further observes, "as an established theorem that from the period of puberty to the climacteric age there is, besides a gradual death of the mucous membrane lining the whole uterine cavity —which must ever recur, to be compatible with life—a more or less regularly-recurring and complete death of this coat. In the whole animal kingdom we search in vain for a physiological change truly analogous with this. . . . I have never at any time detected any evidence of structural change, microscopically, in the inner linings of the uterus in cases in which this organ has been removed from the bodies of females who have died either during or just before an expected menstruation. . . . Taking all the facts into consideration, it is more than probable that the recurring monthly discharge in the human female is a secretion, or rather excretion, from the lining membrane of the uterus and Fallopian tubes, without degenerative change other than that commonly associated with augmented functional activity, and comparable with that occurring in any other organ of the body under similar circumstances."

Intestinal Sutures, with a Report of an Experiment illustrating the use of both the Interrupted and Continuous Sutures. By W. V. Kingsbury, M.D., of St. Louis (*The St. Louis Medical and Surgical Journal*, January, 1889.—Dr. Kingsbury prefaces the report of his experiments by the following remarks: "To unite and retain in opposition the edges of a divided, incised, or lacerated bowel, has been one of the greatest desiderata of surgeons from the earliest period of intestinal surgery down to the present day. How to secure the edges of a wound by the means of sutures, so as to prevent the passage, either outwards or inwards, of any of the solids, fluids, or gases, was, for a number of years, a question which perplexed the minds of surgeons." After having described the proceedings and experiments, Dr. Kingsbury submits the following conclusion: That the interrupted suture is better than the continuous suture for wounds of the intestines whose long diameter extends in the longitudinal direction of the bowel. In making the continuous suture it is necessarily exercised in the longitudinal direction of the bowel by means of which the edges of the wound are approximated; in making the interrupted suture, traction is used only in the transverse direction. It diminishes the calibre of the bowel no more than does the continuous suture, and can be applied with very little more difficulty.

The Treatment of Tabes Dorsalis by Suspension (*Der Fortschitt. Genf.*, February 5th, 1889).—The introduction of this method of treatment is due to Professor Maschoukowsky, of Odessa. The treatment consists in the adaptation of the sitting posture, leaning on a Sayer's corset, to an apparatus by which the patient is suspended for progressive periods from half a minute to four minutes. Eighteen patients were treated in this way, by M. Charcot, in 400 sittings. Of these, fourteen were improved, while in eight the amendment was very noteworthy. The first sign of improvement is seen in progressive locomotion. The lightning pains become less frequent, and gradually disappear. The improvement is gradual, and, in proportion to the duration of the treatment, which is, so far, safe and worthy of extended trial.

The Pathology and Treatment of Purulent Pachymeningitis, connected with Inflammation of the Middle Ear. By Dr. Eg. Hoffmann (*Centralblatt für Chirurgie*, February 9th, 1889).—Dr. Hoffmann, from his own observations, and from the records of cases in medical literature, traces the connection between these two conditions. As the result of 102 *post-mortem* examinations, he found the most frequent lesion in the propagation of the inflammation from the middle ear, inducing abscess of the brain. The pus finding its way by the vascular or nervous canals, and appears externally at the mastoid process. The treatment adopted consisted in the evacuation of the abscess.

Salicylate of Mercury (*Gazette Hebdomadaire des Sciences Médicales des Bordeaux*, February 3rd, 1889).—Dr. Silva Araujo, called the attention of the General Polyclinical Society, of Rio de Janeiro, to the above-named mercurial combination, and pointed out its advantages as follows: 1. It is borne well by the stomach, causing no disturbance of that organ, nor diarrhœa, as frequently occurs with mercurial preparations. 2. It does not give rise to stomatitis. 3. It acts more promptly than other mecurials.

The observations of Dr. Araujo have been confirmed by Dr. Szadek, of Kiew. The dose has been one centigramme, or 0.25 milligramme as pills, three times a day, progressively increased.

Tubercular Cavity in the Wall of the Left Ventricle of the Heart. By Dr. Mariani, Madrid (*Le Progrès Médical*, February 2nd, 1889).—In this case there had been no indication of its presence during life, neither was tubercle found in any other organ. Dr. Mariani states: The patient who had died of uterine affection, had suffered from mitral insufficiency. At the autopsy, on detaching some adhesions which existed between the pericardium and the anterior aspect of the heart, an incision gave exit to caseous matter. The heart was carefully inspected in order to ascertain the source of this caseous matter, and it was not without surprise that a cavity the size of a common nut was found in the anterior wall of the hypertrophied heart, presenting all the characters of a phthisical tubercular cavity. Its anterior wall was very thin; its posterior wall was about eight millimetres in thickness. A microscopical examination of the contents showed bacilli, micrococci, and pus globules, with calcareous particles, and corpuscles of cartilage. The diagnosis of mitral insufficiency was fully conformed by the autopsy.

Iodoform in Diphtheria (*Saint Louis Medical and Surgical Journal*, January, 1889).—In the Polish weekly *Gazeta Lekarska*, No. 36, 1888, Dr. A. Pulawski, of Warsaw, details seventeen cases of diphtheria, mostly of a severe kind, rapidly cured by the local use of powered iodoform, in quantities varying from five to ten grains, twice or thrice daily. The drug was applied by means of a brush or an insufflator. According to Dr. Pulawski, iodoform acts as an antiseptic, and represents, generally, the best anti-diphtherial means of all known. The main advantages are said to consist in: (1) its being absorbed but gradually; (2) in its application being easy and simple; (3) in its manifestation (powdering, insufflator) being free from such danger as wounding the effected mucous membranes.

The Cœloscope (*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, February 3rd, 1889).—Dr. Cæsar Belin has submitted to the Academy of Medicine, a new electric lamp for the investigation of the natural cavities. The construction of the "cœloscope" is based upon the property possessed by a glass rod of transmitting luminous rays without calorific rays. Thus the cœloscope serves to illuminate, but does not heat the mouth, the vagina, the bladder in the supra-pubic sections, and the peritoneal cavity in laparotomy. It consists of a small electric lamp enclosed in a flask, and mounted upon a glass shank of different sizes according to the nature of the cavity to be explored, the operator holding the flask in his hand, and regulating the light by means of a communication with a galvanic pile.

Injection for Gonorrhœa (*Saint Louis Medical and Surgical Journal*, January, 1889).—Signor Turpura Impallomenti states (*Farmaceutic Italiano*) that a 1 per cent. solution of creasote in decoction of chamomiles combined with boric acid will kill the gonococci in two hours. What is more interesting, probably, is his statement that he has cured five out of seven patients in six days.

Idiocy and Feeble-Mindedness in Relation to Infantile Hemiplegia. By William Osler, M.D, Pennsylvania (*Alienist and Neurologist*, St. Louis, January, 1889).—"Hemiplegia," Dr. Osler observes, "is by no means an uncommon affection in children, second only to spinal paralysis in frequency, and much more serious in its consequences. The records of the Philadelphia Infirmary for nervous diseases show that more than one in five cases of severe paralysis in children is of cerebral origin." "The majority of the cases of infantile hemiplegia occur during the first two years of life. The affection sets in suddenly with convulsions, often with fever, then coma of variable duration, and when the child awakens it is noticed to have lost power on one side. This mode of onset occurs in three-fourths of the cases. After a time the paralysis begins to improve; the face first; speech if lost is regained, and power returns to the leg. The use of the arm is rarely regained, and in many cases it wastes. A majority of the patients have the characteristic hemiplegic gait. In time as a rule, a spastic condition develops in the palsied members and in the arm contractures are common . . . More serious consequences follow—many of these children become epileptic, and a considerable number present all grades of mental defect, from a simple feeble-minded condition to the most profound idiocy." Much doubt exists as to the primary lesion in these cases. The pathological conditions that are here enumerated, are: encephalitis of the gray matter of the motor regions. Embolism, thrombosis, sclerosis, porencephalus, and vascular obstrucion. Concise notes of twenty-two cases are given by Dr. Osler.

Responsibility in Inebriety. By T. D. Crothers, M.D., Hartford, Conn. (*Alienist and Neurologist*, St. Louis, January, 1889).—Dr. Crothers discusses this question in all its bearings, and submits the following summary of his conclusions:

1. In all cases of inebriate criminals there is mental defect, and both incapacity to reason sanely or control their acts. An inebriate who does criminal acts cannot be of sound mind. A criminal who is inebriate is not sane. No inebriate is fully sane, and no criminal can be of sound mind long.

2. The question for the medical witness is—how far was the prisoner conscious of the nature of his acts? and how far did he have control over his acts in a certain crime.

3. John Smith has committed a crime while under the influence of alcohol, and the law inquires into his mental condition at the time of the crime. His impaired mental health and responsibility is beyond doubt. Is it possible from a study of the facts in the history of the prisoner, to determine the ranges of responsibility and accountability? Can we go into this penumbra region of sanity and insanity, and follow vice up to the dead lines of disease, and show where human justice should punish, and where it should forgive, as irresponsible?

4. The medical man approaches this problem from the scientific side, seeking the facts beyond all moral or legal theories of brain action. There should be no hesitation in stating what appears to be truth, no matter how far it is beyond the popular intelligence of the present.

5. If the facts in the history of the prisoner point to a degree of unconsciousness of the nature and character of his acts, and the inability to control such acts, the insanity of the prisoner should be assumed as a fact, far more likely to be true than the opposite. The limits of scientific study will not sustain any efforts to draw boundary lines where health and disease join.

6. When the fact of the inebriety of the prisoner is established, his sanity in a given case must be proven and sustained beyond all question or possible doubt. All the circumstances and conditions of the crime and life of the prisoner must bring evidence to prove this fact. The general fact of inebriety reverses the natural order; his insanity must be assumed, and his sanity proven.

7. Finally, in all these cases, the medical witness is called to determine the physiological, pathological, and psychological facts and their meaning. The applications of these facts are for the law, court, and jury.

The medical expert of to-day must go beyond the theories of yesterday, or the facts on which yesterday's views were based. A newer, larger field opens up to-day, and the facts are more numerous, and indicate a clearer, wider view to-morrow.

Why the Bromides should be largely Diluted in Epilepsy (*The Alienist and Neurologist*, St. Louis, January, 1889).—Dr. C. H. Hughes, of St. Louis, states that it is his practice to direct the admixture of each dose of bromides with a glass of water or of milk in order to prevent gastric irritability and to secure rapid absorption, and secure dilution of the blood in order to prevent the thickening which induces spasm of the vessels, and to which, perhaps, is due to the recurrence of epileptic attacks. "Thus: the thickening irritates the vasomotor and psychomotor centres till their irritability is exhausted. The rest, inertia and slumber, after the attack, makes less demand upon the blood than the active state of the individual, until a time is reached after the return of the accustomed demands of waste and repair, when an abnormal disproportion of sanguine liquefaction is reached, incompatible with physiological movement of the vasomotor and psychomotor centres in their normal condition. It becomes impossible for a due amount of nutriment and sustaining pabulum to be appropriated from the blood thus increased in consistency and decreased in fluidity. The non-striated muscles of the arterioles, unsupported and unnourished, take on an abnormal irritability, and contract in spasm. The psychomotor centres, thus rendered anæmic, show their distress in convulsions. A psychomotor centre convulsed is an oppressed centre of motion struggling for its normal equilibrium. The cause of its tumultuous effort is the robbery of its normal support and nutrition, either through decrease of blood quality or quantity, which may result from under-pressure, over-pressure, or toxic states."

Creolin. By Dr. J. E. Lowrey, Denver (*Denver Medical Times*, February, 1889).—Creolin, the new antiseptic, is undoubtedly the best representative of its class. The non-poisonous character of the preparation gives it a great advantage over the older antiseptics. It can be taken internally in large doses without danger, and in this particular it fills a long-felt want. It is a dark brown syrupy fluid, the product of dry distillation of certain forms of English coal. It is miscible with water, but the mixture is not clear, which is one great disadvantage in its use as an antiseptic wash, especially in cavities. The uses of creolin are numerous and important. In obstetrical practice it is destined to replace carbolic acid and bi-chloride, being more efficient than the one and less dangerous than the other. It should be used in a one-per-cent. solution. The result of 280 parturitions equally divided between bi-chloride and creolin showed conclusively the value of the latter, not a single case of severe sepsis following its use. In purulent inflammations in the genito-urinary tract it acts with promptness and certainty, especially in cystitis. As an internal remedy creolin has already established quite a reputation. Administered by inhalation, in pulmonary tuberculosis, especially early, it favours expectoration and diminishes the secretion almost immediately. It has been used with success also in diphtheria and all affections of the alimentary canal, such as meteorism, typhilitis, intestinal catarrh, and especially typhoid fever, and in fact any disease of the stomach or intestines where an antiseptic agent is indicated. It should be given in doses from five to fifteen grains t. i. d.

Dupuytren's Contraction (*New York Medical Journal*, February, 1889).—Dr. Willy Meyer presented at the meeting on December 9th, 1888, an elderly man upon whom he had operated for this condition. He mentioned different theories held as to its causation and the various modes of surgical relief. He preferred, on the whole, the removal of a long strip of the palmar fascia in the line of the contraction, the strip tapering to a point above. Dr. Abbe recommended making a series of sections across the line of contracture, but had also obtained good results from excising a band of the fascia. Either operation could be done in ten minutes under local cocaine anæsthesia. He thought it very important not to put the hand into full extension or over-extension afterward, as it set up a state of excitement in the fascia and caused pain and œdema. The condition was already one of hyperplasia of the aponeurotic structures, possibly due to irritation made liable by the absorption of the underlying cushion of fat.

Enormous Nævi cured by the Galvano-Cautery (*New York Medical Journal*, February 9th, 1889).—At a meeting of this society

(December 9th, 1888) Dr. Abbe presented a child of twelve years whose treatment for nævi of phenomenal size was nearly complete. These had appeared as soft vascular tumours just beneath the skin, at first on the fingers, then on the forearm and arm, and finally about the root of the neck, where, from their size, they became, so to speak, great bags of blood which filled the whole hollow of the shoulder. He had at first treated some of the smaller of these tumours on the fingers by electrolysis, using fine needles, making from fifty to a hundred punctures, and holding the needles inside till he heard the blood bubbling; but this method had not succeeded when used to reduce the larger tumours in the arm. He had had better success with the Paquelin cautery and the galvano-cautery. At the elbow he had cut out one of the tumours, but the hæmorrhage had been such that he had not dared attempt to remove the larger ones about the shoulder. For these he had arranged a device which was, so far as he knew, a new one. A platinum wire had been introduced beneath the skin, carried around the vascular tumour, and brought out again nearly at the point of entrance. Then a strong galvanic current had been sent through the wire, and the loop of the latter slowly withdrawn, burning its way through the vascular mass, and out from the skin between the points of its entrance and exit. It had left but a slight red cicatrix an inch in length where the loop had been withdrawn, and the nævus had been almost entirely reduced. The only other method which the speaker considered adequate for the treatment of large nævi was that recommended by Roser, who drew through the tumour fifty or more threads charged with persulphate of iron.

Male Sterility (*Medical News*, Philadelphia, February, 1889).—Dr. Fürbringer, of Berlin, has written some important observations on this subject in the *Deutsche Med. Wochenschrift*, No. 28, 1888. He believes that sterility in the male is far more frequently the cause of barren marriage than is generally believed to be the case. Aspermatismus is associated with complete impotence, but azoöspermia, or absence of spermatozoa in the semen, a condition by no means rare, may exist with perfect potency, and on that account is very easily overlooked. With few exceptions, azoöspermia is caused by obliteration of part of the seminal ducts. This condition is generally caused by double gonorrhœal epididymitis, or inflammation of the vas. After that malady, the chances are, Dr. Fürbringer has calculated, nine to one that azoöspermia will follow. Prognosis appears to be hopeless when the condition in question is not discovered until three or four months after the onset of the local inflammation. The chief importance of the management of the case lies in accurate diagnosis. True aspermatism is traced by Dr. Fürbringer to arrested development of the ejaculatory ducts. He declares that in several cases of sterile marriages under his own observation the unfortunate wife had been sent from physician to physician, or from hospital to hospital, and her cervix divided, or her endometrium scraped, until a glance at the microscope proved that nothing was wanting to insure the blessing of children, excepting spermatozoa. Dr. Fürbringer's observations are worthy of consideration. No doubt the increase of temperance involves the relatively greater frequency of those forms of gonorrhœa where the earlier symptoms are very mild. Hence the first stages may now be as much neglected by patients as they have ever been wont to neglect later stages. The more a case of gonorrhœa is neglected, the greater will be the chance of serious secondary complications.

Bromide of Gold in Epilepsy (*Philadelphia Medical Times*, February, 1889).—The following extracts are made from the essay of Dr. Goubert, which received the prize of the Academy of Medicine:—The numerous causes of epilepsy have given rise to a variety of treatment, among which that of the bromides deservedly takes the first rank. For many years, bromide of potassium, sodium, ammonium, lithium, calcium, zinc, arsenic, nickel, camphor, ethyl, have variously been employed, but their action appears less reliable than the bromide of potassium, or a combination of three—potassium, sodium and ammonium. In 1878, the author first used bromide of gold, and encouraged by the results, has established a treatment of remarkable activity. The form preferred is the solution, which is of a dark orange colour. The least dose for an adult is eight milligrammes in twenty-four hours; for a child, from three to six milligrammes will suffice. When wishing to obtain a rapid effect in an adult this dose is gradually increased until the effect is obtained. If the dose is increased a persistent headache may occur, which ceases when the dose is lessened. The author has never exceeded a dose of twelve milligrammes. The advantages are the small quantity required, compared to the bromide of sodium or potassium necessary to obtain a good result; and the absence of digestive disturbance renders it possible to continue the treatment for a long time without intermission. No phenomena of bromidism have been noticed; no cutaneous accidents, nor loss of memory, or diminutions in sexual functions. Every one is familiar with the grave result of the bromide treatment upon the general health of epileptics. Bromide of gold is more rapid in its effects, and gives rise to none of these very disagreeable phenomena. Another point worthy of attention is that the effect is lasting, and remains sometimes for many years without other treatment and with no return of the epileptic attacks.

Bandaging the Extremities for Pulmonary Hæmorrhage (*Medical Bulletin*, Philadelphia, February, 1889).—Seitz (*Archiv. für klinische Medicin.*), as the result of experimental investigations, recommends bandaging the extremities for hæmorrhage from the lungs; first the upper extremities, at or about the middle of the arm, then the lower at the middle of the thigh or immediately below the knee, using silk bands about three-fourths of an inch wide, or, in case of necessity, strips of any sort. By imprisoning the blood the tension of the left ventricle is diminished, and contraction of the vessels in the area not included occurs. The half-hour during which the bandages are retained suffices for the formation of a thrombus at the site of hæmorrhage. The method was used in the time of Hippocrates.

Case of Fracture of the Fibula treated with Massage. By Dr. L. Marevéry (*L'Union Médicale*, 14th February, 1889).—The patient, æt. forty-one years, of good health, had a fall on the 22nd November, 1888, and was sensible, at the time, of a "cracking" at the right external malleolus. Reduction of the dislocation having been effected, the existence of fracture of the fibula was evident. The foot was covered with compresses and oil silk, and the limb placed in a raised position. On the following day there was considerable tumefaction about the ankle. On the 24th November massage, with opodeldoc, was used for twenty minutes. A second massage was practised on the 25th. The swelling gradually subsided. Altogether massage was used seventeen times. On November 28th the patient could stand, with slight help. A caoutchouc bandage was applied. This was changed to flannel on December 8th. On the 11th she was able to stand (in nineteen days), and to resume her occupation, forty days after the receipt of the injury.

Case of Creolin Poisoning (*Medical News*, Phliadelphia, February 29th, 1889.)—Dr. Cramer reports the following: a five year old boy, upon whom he had operated for an inguinal hernia, was ordered applications of gauze saturated with a two per cent. creolin solution, the same antiseptic solution having been used during the operation. Everything went on satisfactory, no fever set in, the urine continued clear for three days after the operation; in fact, general condition was excellent. On the evening of the third day, Dr. Cramer was called to the patient's bedside to treat, what seemed to the parents, to be scarlet fever. He found the entire body, including the face and hands, covered with an exanthem resembling scarlet fever; the little patient appeared extremely restless, complained of great thirst, and of an itching and burning of the skin, temperature was normal, pulse somewhat rapid and small. The urine had a strong carbolic acid odour, as well as the characteristic carbolic acid colour.

Dr. Cramer immediately replaced the creolin application by a three per cent. boric acid solution, and administered internally large quantities of seltzer water in order to facilitate the elimination of the creolin through the kidneys. The exanthem lasted until the following morning when it disappeared; but the urine remained dark until the following evening. The boy made a complete recovery.

A Sulphonal Exanthem (*Medical News*, Philadelphia, February, 1889).—Dr. Schotten, of Cassel, reports the case of a delicate, nervous woman, æt. forty-five, suffering from chronic myelitis, who for one year had regularly taken chloral on retiring. On the night of August 29th, this patient was given thirty grains of sulphonal; it did not produce sleep, but rather a sense of extreme fatigue. The following evening thirty grains more were administered, with the same effects. On the third evening forty-five grains were administered. This was followed by a prolonged sleep, but on awaking the patient complained of peculiar feeling of extreme fatigue, manifested by great inclination to sleep, hanging of the head, and difficult motion of the tongue; besides this she complained of headache, of bitter taste, and loss of appetite. This condition lasted four days, after which time an exanthem made its appearance, beginning on the head and gradually extending over the entire body, resembling in form and colour the eruption of measles. The body was hot; the skin had a burning sensation; the mucous membranes were not afflicted. With the appearance of the eruption, the symptoms of fatigue, etc., gradually disappeared. The exanthem lasted two days, after which it slowly disappeared, leaving traces which were yet noticeable on the fourteenth day. A sister of this patient was similarly effected after taking antipyrin.

II.—SELECTIONS FROM SPANISH AND FRENCH MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

Epidemic Infantile Pemphigus (*Pemphigus neonathorum*). By Dr. Juan Viñeta-Bellaserra (*Revista de Ciencias Médicas*, Barcelona).—The recent occurrence of three cases of this not very common disease here induces me to give a concise account of its appearance and successful treatment. By pemphigus we understand a disease of the skin, which may be acute or chronic, contagious or not so, and characterised by the formation of blebs or blisters, usually oviform in shape, and filled with a fluid which may vary from clear citron to opaque yellow or (when containing disintegrated blood) dark brown. In size, they vary from that of a bean to a nut, or even a small apple. The blisters may, under favourable circumstances, disappear by simple absorption of their contents, but more generally they are broken, and ulcers or thick crusts result. It is generally seen in three forms:—*P. vulgaris, foliaceus*, and *neonathorum*. The form termed *P. syphiliticus* is really a manifestion of the latter disease, and should rather be called *syphilide ampullosa* than pemphigus.

The form I am now concerned with usually appears at the hour of birth, and generally either on the face or neck of the infant, and with blebs about the size of a bean. It may, however, show itself on any part of the body, with the exception of the palm of the hands and sole of the feet. They grow rapidly, and the base of each is encircled by a ring of intense redness. Unless promptly treated, the primary ampullæ will be succeeded by others, and accompanied by feverish symptoms. They contain a clear straw-coloured fluid, break very easily, and leave superficial ulcers, which may rapidly extend by the formation of fresh blisters at their margin. Occasionally the disease subsides without treatment, but this is rare; generally, if left to itself, the ulcerated areas enlarge by successive crops of blisters. They become purulent, the feverishness pronounced; there is vomiting and diarrhœa; the mouth becomes aphthous, preventing suckling; the child emaciates, and the face assumes that piteous expression one so often sees in athrepsia, with the wrinkled look of a little old man, and death occurs during the first or second week of its existence. A peculiarity of this form of pemphigus is, that it is epidemic and contagious. The serum from the blisters is auto-inoculable, and will readily infect other children with whom it is brought into contact. Its etiology is doubtful: it attacks preferably, as might be inferred, weak and cachectic subjects, but it is not rare to see the most robust attacked by it, and these latter are quickly reduced to a condition of extreme debility. By some observers, amongst whom are Cazenave, Bouchet, and Paul Dubois, it is regarded as specific in its origin; but this opinion is controverted by the fact that mercurial treatment is invariably useless and generally hurtful.

Differential diagnosis: *Pemphigus vulgaris* appears suddenly; the blister is generally solitary, and there is no erythematous ring, and it attacks people of all ages, but is not contagious.

Pemphigus foliaceus has large, soft bullæ, which form thick, scaly scabs, which are easily detached.

Pemphigus neonathorum is a much more serious disease; it appears spontaneously within a few hours of birth, is auto-inoculable, and the clear yellow fluid in the blebs will convey it both to other children and to adults.

Pseudo-pemphigus syphiliticus generally appears on the palm of the hand or the sole of the foot. The fluid quickly becomes purulent, and the areola is copper-coloured. *Treatment:* The child should at once be isolated, and placed amid the healthiest surroundings; and, if it is being fed artificially, ass's milk had better be given. The blisters should be powdered with starch, and protected by a covering of cotton wool; the ulcers coated with vaseline containing 5 per cent. of carbolic acid; and the gastric irritation relieved by chalk or bismuth mixture and starch enemata.

[Two cases of this disease I have seen were most quickly cured by giving two drops of the tincture of perchloride of iron three times a day, emptying the blisters, and applying a little weak ointment of the yellow oxide of mercury.—*Trans.*]

A Case of Prolonged Sleep. A clinical lecture given in the *Hôpital de la Salpêtrière* by Professor Charcot (*Gazette des Hôpitaux*, Paris, January 27th, 1889).—The woman before you has been sleeping now for three days without awaking for a single moment. She is well known here, and I may say in all Paris, and the newspapers have christened her *la dormeuse de la Salpêtrière*. Her prolonged slumber gives us no uneasiness; we know that she will awake some day or the other, and, although her disease is one of the gravest forms of hysteria, there is nothing of gravity in her present condition. In fact, ever since 1875 these attacks of sleep, if we may call them so, have overtaken her. Once she slept for two months, and on one occasion for forty days. It is a singular type of disease which merits your closest attention, for it is one of that most protean of all ailments—hysteria. It is now twenty-six years, when she herself was twenty-seven years old, since she first entered this hospital, and her history gave these significant data: mother an epileptic in her childhood; father a drunkard, probably a dipsomaniac; sister extremely "nervous." At eighteen years the patient had for the first time an hysterical attack; and you see the tenacity of a morbid condition which many medical men still regard as a trifling disease. The fits of struggling lasted until 1875, when they were replaced by, shall we say, fits of sleeping. The former attacks were of the class we conventionally call hystero-epilepsy, but they have nothing in common with the *morbus sacer* except the convulsive movements which simulate it.

This unfortunate woman suffers from another disease which not unfrequently follows prolonged hysteria—paraplegia. It is sometimes recovered from, but it will not be so in this case. Look at the atrophied muscles, the limbs wasted to skin and bone, the twisted feet, and you will not have to ask me if this poor creature can ever be the better for the treatment she will receive from us. The condition in which you now see her we call an attack of sleep: but can we really call it so? In any case it is not natural sleep. When one is sleeping a loud noise will awake, or applying ammonia to the nostrils, or the electric shock restores one to immediate consciousness. Our patient is not in the least disturbed by either of them. The only thing which affects her is compression of the ovary, and then she only groans and slightly moves, but does not awake. And yet, in spite of this deep apparent sleep, she does not lie motionless as a healthy sleeper would. A wave of contractions passes from time to time over her body; there is that quivering of the eyelids which is so pathognomonic; her limbs contract, and occasionally she raises her body to make a kind of half salutation. All this tension and agitation is so entirely different to the repose and muscular relaxation of true sleep that they lead me to consider this somnolent condition to be an aborted fit of hysteria—an attack which prostrates in place of exciting the storm of convulsive movements we usually associate with it. This apparent calm should not deceive us, however, it is the death-like silence which precedes the fury of a cyclone, not the slumber of the summer seas.

This contraction of the muscles of the extremities, that foam on her lips, are not epileptic, but, with the occasional harsh cry, the disordered movements of the body, are but arcs of the complete circle of an attack of hysteria. From some slight exciting cause this troubled sleep could at any moment pass into the shrieks and convulsions of the classical attack.

But you may ask me, Why do not these symptoms indicate epilepsy? In that disease there are conditions very similar, it is true; but the cause, the mechanism, and the results are entirely different. One observation alone is sufficient to decide the question. The thermometer tells us that in epilepsy there is enormous internal combustion going on with the development and waste of the energy due to it. But in hysteria the thermometer remains at the normal point, nutrition and metabolism are in balanced relation, or may be both reduced to the condition of the hybernating animal before you. In one case only did I find a considerable elevation of temperature, and anxiously sought the cause: it was simply that the bowels had not acted for several days, and a purgative extinguished it. Again, epilepsy is often fatal; hysteria never.

There is here, also, another fragment of the neurotic circle: cataleptic attitudinizing, which shows the intimate connexion, or rather the common parentage, of hysteria simple, of this abnormal sleep and hypnoticism. How does she live? In the simplest manner possible. They get her to swallow a little milk, and that, little as it is, supplies all she needs. In fact, in her present state, nutrition is reduced to its lowest point. There is some emaciation due to autophagia, but it is of no moment, and as soon as she awakes the increased excretion of urea shows how rapidly the function is resumed. This condition can, surely, never be mistaken for the coma of apoplexy. Dr. Devobe has, indeed, called it hysterical apoplexy, but that is a caprice of nomenclature we can well spare.

There is a sudden contraction of the limbs sometimes felt, to their owner's great surprise, by the magnetizers of our boulevards and salons, which is another hysteric fashion which our patient is showing, and it shows too how dangerous it is to play with edged tools. But you must be able to recognize them all. To mistake an hysterical symptom for a grave disease may possibly do no harm to the patient, but it may be extremely prejudicial to the doctor.

Are Sewage Farms a Source of Danger to the Public Health? (*Journal d'Hygiène*).—The opinion is almost unanimous amongst sanitary engineers that the best means for dealing with the sewage of a large city is the construction of a perfect system of sewers. There can be little or no doubt about it; but the difficulty

is, what shall we do with the enormous volume of fœcal matters the sewers discharge? When it can at once be sent into the sea, there is a simple solution of the problem: the salt water destroys all the more dangerous agents present with great rapidity, and the extreme dilution renders all poisons innoxious. But few large cities are placed close to the sea; and, if a river be used as the recipient and carrier, unless the volume of sewage be very small relatively to that of the stream, we poison its water, and only distribute amongst other communities the venom we are discharging from our own. It is this latter consideration which has determined the French Government to forbid the opening of the Paris sewers into the Seine, whilst the enormous quantity of sewage to be dealt with renders any system of chemical precipitation impracticable. There remains two plans: to construct a cloaca from the city to the coast, or to distribute the sewage over the plain of Gennevilliers by a system of farm irrigation. Then the question arises: is there any danger therein from the myriad disease germs the sewage must contain? And this point has led to the most acrimonious discussion. Chief amongst the disputants have been Pasteur and Cornil—the former urging the construction of a main sewer to the sea; the latter, farm irrigation, and their diverse views of microbian dangers may be thus summarised:—

Cornil.	Pasteur.
We cannot believe that microbes retain for any length of time their primitive virulence. Even when placed in cultivating media, they become innoxious at the end of a few weeks or even days. The only forms which retain any activity are those which have the property of forming encapsuled germs. And pathogenic organisms exposed freely to the oxidising action of the air, and especially to that of the nitrificating microbes, must be rapidly consumed. Light, and, above all, the direct rays of the sun, act in the same way. Arloing showed that it was only necessary to expose the bacillus of carbuncle for less than an hour in full sunlight to render it harmless.	Yes! but we can. Few microbes have been studied from this point of view, but those of carbuncle we know can preserve their infective powers for a long time, even for years.
2. And we must not forget that in the sewers saprogenic microbes altogether outnumber the pathogenic; and it is believed that the former will bring about the destruction of the disease germs floating with them.	2. Certainly not, they do not all die; for there are diseases even amongst which these germs can live. This is the base of the new theory of disease; and, as they exist, they are ever a source of danger, of the very danger we wish to avert.
3. Carbuncle is a disease which gives rise to the formation of encapsuled germs, and yet it is one of the rarest of diseases in Paris: there was not a single case in 1886, and only five in 1887.	3. Carbuncle may be rare, but that is not in question. The point is, that its germs are most permanent, that they may be buried deep in the ground, and then, after having been brought up to the surface again, be as virulent as ever. This fact, of which we have ample demonstration, contradicts the old opinion that burying animals dead from disease will render their remains harmless, and that the carbunculous blood can be safely used as a manure. It has been proved that the germs of typhoid fever will retain their activity for at least five months after they have been buried in the earth at a depth of from thirty to fifty centimètres (Dr. Grancher).
4. One of the most beautiful discoveries of Pasteur is based on the discovery that the poison of fowl-cholera is changed into preventive vaccine by the action of the air. And this action, if evident in the test-tubes of the laboratory, should be greater still in the open fields.	4. Quite so, if one treat of microbes which have not formed germinal spores; but not so when germs or spores which can exist in the air are in question. I have found the germs of carbuncle quite active after having been kept for a long time in a tube simply stopped with cotton wool, and not in any medium.
5. If one bury an animal which has died from carbuncle at a sufficient depth, without skinning it, or spilling any of its blood on the surface, it has no danger whatever for animals pastured above it.	5. This is a profound error: the carbunculous blood escapes from every natural aperture, and if there be any trace of air in contact with it, the germs or spores are produced, and worms or beetles may bring them to the surface.
6. If the objections of Pasteur are founded on fact we might just as well forbid the use of all fœcal matter in the cultivation of our fields and gardens, as well as its use in irrigation. Every heap of dung from the streets, and vegetable refuse from the dustbin would be equally dangerous.	6. How many times have the dejections of typhoid patients, carelessly thrown over gardens, been the cause of the extension of that disease!
7. The excellent sanitary condition of Ginnevilliers, and of other places where sewage irrigation is employed, cannot be denied.	7. It has been proved that typhoid fever—to narrow the issue to a single point—is not endemic in Ginnevilliers; had it not been so, the system would have been condemned long ago. But it does occur there, and the disease cannot appear unless its germs are precedent. "But," it is said, "the disease should be most prevalent where there is more permanent diffusion of these germs." I should not venture to say so. I believe that when people are constantly exposed to the reception of minute quantities of these germs, they become gradually accustomed to them—they are vaccinated—in the same way as the staff of an hospital is almost proof against the attacks of the surrounding diseases. But I should view with terror the replacement of the actual population of Ginnevilliers by another which had not been so seasoned, which had come from a healthy district. I believe that the disease would overwhelm them. And I do not think the doctors will contradict me.

And now, what ought we to do? Should we follow to the letter the advice of the hygienists founded on a science which has had so few years of existence, and does not by any means receive general acceptance? If we are to do so we must drink no milk until it has been boiled; no water until it shall have passed through a perfect and perfectly new filter. We must not eat fresh butter, and only doubtfully the salted; nor fruits which grow near the surface of the ground, such as strawberries, nor fruit of any kind without previously carefully washing it. We must never venture to eat a cherry or an apple which has fallen to the ground, and never walk in the streets without covering the whole of the face with a layer of sterilized cotton wool. Life would be tolerably safe under these conditions, but few people would be so enthusiastically scientific as to think it would then be worth the living.

The French Government has accepted the advice of M. Cornil, but it is to be feared that financial rather than hygienic reasons inclined the balance in his favour.

III.—NOTES FROM RUSSIAN AND POLISH JOURNALS.

By Valerius Idelson, M.D., Berne.

On the Action of Saline Cathartics.—In the Polish weekly *Gazeta Lekarska*, Nos. 5 and 6, 1889, p. 87, Dr. Henryk Kucharzewski (pron. "Kookhajevskee"), of Warsaw, details his very interesting experiments undertaken in Professor I. I. Tümas's pharmacological laboratory, in order to elucidate the cause of purgative effects following the internal administration of neutral salts (saline cathartics). The experiments were conducted on healthy rabbits, having an equal weight, and remaining under as identical as possible vital conditions. In rough outlines, the following method was used:—For four days preceding the experiment no water was given to the animal, but from fifty to seventy grammes of a 0.7 per cent. solution of chloride of sodium were injected under the skin every day. On a fifth day, fifty or sixty grammes of a 15 per cent. solution of sulphate of soda (Glauberian salt) were introduced into the animal's stomach by means of a gastric sound. Seven

or eight hours later the animal was killed, its abdominal cavity opened, and the intestinal contents carefully collected, weighed, completely dried at 60° or 70° C., and again weighed (to determine the amount of fluid in the contents, as represented by that or this difference between the two weighings). In all, four series of experiments were carried out, in each of which one or two animals were left without the salt (for controlling purposes), all other conditions being equal. In the first group of the experiments, conducted in the way just indicated, the *post-mortem* examination of those rabbits to which $NA_2 SO_4$ had been administered revealed very vivid peristaltic movements, and a considerable quantity of fluid (from 86 to 135 grammes) in the large bowel; while in the control-animals the peristalsis was sluggish, and the intestinal contents were almost dry, the proportions of fluid varying between seven and twenty-five grammes. In another series, the hepatic and pancreatic ducts were tied before the administration of the saline solution. In a third, the administration was preceded by the hypodermic injection of atropia in mild toxic doses (in order to inhibit the secretion of the intestinal glands). And in the fourth group, both the ligature of the said ducts and the atropinisation were resorted to. Under all the conditions the results remained identical—that is, the intestines of those animals which had received sulphate of soda were invariably found to contain by far more considerable quantities of fluid than those of the control-animals (in the former the quantity oscillated between 66 and 148 grammes; in the latter, between 16 and 34). The general conclusions drawn by Dr. Kucharzewski from his instructive researches may be summed up thus: 1. Considerable quantities of fluid appearing in the intestinal tract after the internal administration of saline cathartics cannot possibly be attributed to anything like an increased secretion of the bile, or pancreatic or intestinal juice. 2. The increase in the fluid results from an intensified transudation of water from the intestinal vessels (as Liebig thought and taught, and Hay, Brieger, etc., subsequently found). 3. The mechanism of the purgation brought about by saline cathartics is this—"a profuse flow of water from the intestinal vessels gives rise to a corresponding liquefaction of fæcal masses, while an increased peristalsis, caused in a reflex way by irritation of the intestinal mucous membrane, necessarily promotes the excretion of liquefied fæces." [That an intensified peristalsis plays an important part in the purgation from neutral salts has been pointed out by many predecessors of the author, especially by Buchheim, Aubert, Radziejewski, etc.]

Blisters in Nervous Affections.—In the *Vratch*, No. 4, 1889, p. 95, Dr. P. I. Ermakoff, of St. Petersburg, says that Professor Petr I. Uspensky successfully resorts to blisters in cases of headache (in the region of the great occipital nerve), giddiness, cardiac palpitation and intermittency, pains and weakness about the upper limbs, visual disturbances, and such-like nervous symptoms depending upon a diseased state of the medulla oblongata and its neighbourhood. The phenomena are always accompanied by a marked tenderness of the first or second cervical vertebra, usually localised about the transverse process corresponding to the side on which the said symptoms are observed. A persistent application of Milanese blisters to the tender vertebra is usually followed by a striking improvement, or even complete and permanent cure. Dr. Ermakoff adduces six cases where recovery ensued after the application of from four to eight consecutive blisters in the course of one and a half or two months.

Poisoning by Nitro-benzine.—In the St. Petersburg monthly *Vestnik Obshtchestvennoi Hïghieny, Südebnoi ï Praktïtcheskoi Meditzïny*, January, 1889, p. 37, Dr. Serghei N. Iakovleff, of Simbirsk, details a rare case of poisoning with nitro-benzine (or nitro-benzol), ending in death. The case refers to a brewer, æt. thirty-two, of drinking habits, who, when in an inebriate state after a meal, swallowed a large amount of the so-called "essence of myrbane," or "artificial essence of bitter almonds," which he had mistaken for spirits. Shortly afterwards, he was found by his mates lying on the ground, speaking incoherently and suffering from violent retching. He died before the arrival of a doctor (who had been fetched at once). The *post-mortem* examination revealed a pronounced *rigor mortis*, numerous and extensive purple cadaverous stains all over the body, dark fluid blood in the right cardiac cavities and systemic veins, intense venous congestion of the cerebral meninges, with distension of the cerebral sinuses, intense injection of the gastric and duodenal mucous membrane, and a strong odour of bitter almonds, pervading all organs of the body. In view of the smell, the doctors who had performed the forensic examination arrived at the conclusion that they had to deal with a case of poisoning by hydrocyanic acid. A careful chemical analysis of the viscera, however, made by Dr. Iakovleff, established beyond any doubt the fact that the man had died from the ingestion of nitro-benzine. A crucial proof was furnished by Dragendorff's reaction (*Pharmaceut. Zeitschrift fuer Russland*, Year II., p. 232), which is based on the fact that nitro-benzine, when coming in contact with hydrogen *in statu nascendi*, immediately transforms into aniline. Having obtained by distillation of triturated viscera an oily fluid, the author dissolved the latter in a 60 per cent. alcohol, and added to the solution some metallic zinc and sulphuric acid to expose the mixture to the action of heat. After the gas had ceased to develop, he mixed the fluid with carbonate of soda, separated the precipitate (carbonate of zinc) by filtration, and treated the filtrate with ether. On evaporation of the ethereal extract, a brownish oily fluid was obtained, which had a characteristic smell of aniline, and on being mixed with diluted hydrochloric acid and a solution of chlorinated lime assumed a bright violet colour; while, on being mixed with sulphuric acid and bichromate of potash, it was stained in a beautiful rich blue one.

Professor Boehm has been able to collect from international literature only forty-five cases of poisoning by nitro-benzine, of which fifteen ended lethally. A case ending in recovery has been recently published by Dr. R. P. Rostoshinsky, of Tambov (*Proceedings of the Tambov Medical Society*, No. 7, 1888, p. 209. A detailed report may be found in the *Philadelphia Medical and Surgical Reporter*, December 22nd, 1888, p. 784). According to Dr. Rostoshinsky, nitro-benzine belongs to the group of asphyctic poisons—that is, it acts before all on the red blood-corpuscles, destroying their power of absorbing oxygen (partly through the formation of aniline, and partly through the action of NO_2). The respiration is affected before the cardiac action. Any nervous phenomena are said to be of a secondary nature, and to depend upon a disturbance in nutrition of the nervous system, resulting from an abnormal composition of the blood. A fatal case of the poisoning has been described also by Drs. Potekhin and Olenin, of Tambov (*loco cit.*, 1871, No. 8).

On Treatment of Gleet.—At a recent meeting of the St. Petersburg Naval Medical Society, Dr. Alexander L. Ebermann has read an instructive paper (*Meditzinskïa Prihavlenia k' Morskomü Sbornikü*, January, 1889, p. 67) on "Treatment of Gleet," in which he emphasizes mainly the following points: 1. A rational treatment of gleet is unattainable without the aid of an endoscopic examination. 2. Urethral hæmorrhage, accompanying sometimes the use of the endoscope, can be controlled best by a strong solution of nitrate of silver (one drachm to an ounce of water), which is to be introduced on a piece of cotton-wool, through the endoscope. The procedure causes but a slight discomfort to the patient, and that for not more than a quarter of an hour. 3. The examination reveals the presence of small-sized isolated or grouped nodules, with a yellowish central top, which are scattered along the whole canal backwards from the navicular fossa, being separated from each other by intervals varying from one to two centimetres. The nodules are nothing else than hypertrophied mucous follicles, with purulent or mucoid discharge about the outer termination of their ducts. The morbid condition constitutes the most common cause of obstinate chronic gonorrhœa, as is proved by Dr. Ebermann's collection, consisting of 400 virile members. 4. The best plan for removing the lesion and curing gleet itself is to inject into the urethra a solution of iodide of potassium (three grains) in water (one ounce), with tincture of iodine (two or three drops). The injections should be made two or three times daily, the patient lying on his back (on each occasion), and retaining the fluid in the urethra until the appearance of some unpleasant local sensations. The treatment is said to be followed by excellent results, in two or three months, even in most intractable cases of gleet.

IV.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

The Manufacture of Chemical Matches (*Le Progrès Médicale*).—M. Brouardel has been requested by the Health Council to report to the police department on the phosphoric necrosis which has attacked several of the workmen employed in the manufacture of matches. The manufacture includes three dangerous processes: the preparation of the paste, the dipping, and the drying. It is always the phosphorus which is the source of danger, either by its fumes, or by its volatile acids, or by phosphuretted hydrogen. Phosphoric poisoning rarely occurs in an acute form, but is very frequent in the chronic form. In addition to digestive and respiratory troubles, and to nervous and cutaneous symptoms, the truly characteristic feature is what the workmen call *mal chimique*, and which consists in necrosis of the jaw bones. In order to protect the workmen from these forms of poisoning strict regulations have been laid down, and, generally speaking, they are carefully observed. Machinery has, as far as practicable, been substituted for manual labour. Great attention is paid to hygiene, especially in the matter of ventilation. Placards containing plain instructions are abundantly pasted on the walls and work tables. Eating in the workshops is absolutely prohibited. Vessels containing turpentine are distributed

for use. All workmen are enjoined on leaving the workshop to wash the face and hands, and to rinse out the mouth with a wash provided for them. The company also employs a dentist to examine the mouths periodically. M. Pouchet comments on the difficulty in obtaining the co-operation of the workpeople in regulations which they are apt to consider vexatious and an infringement of individual liberty. Those employees who are afflicted with necrosis owe it to their carelessness, want of cleanliness, and nearly always to their own misconduct. If the instructions, however, are strictly observed, they appear to be insufficient, as in spite of them several workmen have suffered from phosphoric necrosis. M. Brouardel advises that the dental inspections which take place at intervals of six months should be made every month. The white phosphorus which enters into the composition of the inflammable substance, communicates to it poisonous properties, which may lead to serious or criminal accidents. Red or amorphous phosphorus ought to be substituted, which possesses none of the dangers incidental to the use of ordinary phosphorus, is not poisonous, and with which matches of excellent quality can be made. The use of amorphous phosphorus is uniformly adopted in Sweden, Denmark, Saxony, Holland, Peru, and Switzerland. The Danish law, which has worked very satisfactorily, is as follows :—

Article 1.—From the 1st of January, 1875, it is prohibited in this country to manufacture any matches containing white phosphorus, or other matches than those which are intended to be struck on material specially prepared for that purpose. It is also forbidden after the 1st July, 1875, to introduce into the country, or sell, matches of which the manufacture is thus prohibited.

Article 2.—In match factories where red phosphorus or hydrochloric acid are used, the place in which the phosphorus is prepared must be well separated from that in which the acid is prepared.

Article 3.—Infraction of this law will be punished by a fine of from twenty to two hundred crowns, and the confiscation of the forbidden matches. These questions will be deemed police questions. Those whom the law concerns are required to regulate their business accordingly.

Whatever precautions are taken in the manufacture of matches, accidents will sometimes occur, but the substitution of amorphous for white phosphorus will entirely prevent criminal poisoning or that incidental to the trade, and also obviate the danger of fire.

Etheromania (*Le Progrès Medical*).—Etheromania is one of the modern forms of alcoholism, and has become so prevalent in Ireland that an association has been formed with a view to placing the sale of ether under important restrictions.

New Spirometer (*Polytechnique Médicale*).—Several instruments have been devised for the purpose of measuring the amount of air expired accurately. Such are the spirometers of Hutchinson and Schnepf, constructed on the same principle as gasometers, that of Boudin, and the pneumatometer of Bonnet, the pneusimeter of Guillet, constructed after the pattern of anemometers, etc. To this list must now be added an instrument which has been invented by M. Ch. Verdin, and which deserves attention, from its relatively small bulk (being easily portable) and for its great precision. Its construction is on the principle of dry gas meters, which possesses the advantage of eliminating all liquids, and renders the apparatus more easy to manipulate and carry about. It is a decided improvement on the spirometers previously constructed after the principle of meters containing water. M. Verdin's spirometer is very sensitive, and is as accurate as need be wished. The slightest breath, even when the tube is some centimetres away from the mouth, is registered. When a slow, steady expiration is made, the indications given by the instrument are absolutely exact; when blowing strongly a slight error is produced, which, however, need not be taken into account, as it never exceeds 1.20 per cent. of the total quantity of air expired. The instrument has three dials, on each of which a hand moves. The large dial marks centilitres, the two smaller ones register decilitres and litres.

Naphthalin in the Treatment of Fœtid Diarrhœa (*Journal de Médicine de Paris*).—Holsti has exhibited naphthalin in intestinal catarrh with fœtid excretions. The dose for adults is half a gramme four or five times a day, but the treatment should not be continued beyond from ten to fourteen days. For infants between one and two years of age, 0.12 to 0.18 grammes four times a day will be found sufficient. In all cases, infants as well as adults, improvement was noted from the commencement of the treatment; occasionally a relapse takes place, the continuation of treatment notwithstanding. M. Holsti recommends naphthalin particularly in cases of chronic enteritis, when other treatment has failed. He has never observed any injurious effects on adults, but a child, æt. one year and a half, who was taking 0.12 grammes of naphthalin four times a day, acquired a serious anæmia. For this reason, Holsti advises watchfulness when this remedy is prescribed for young infants, especially when the remedy is persevered with. In two cases he failed to derive benefit from this treatment

Electrolysis in Stricture of the Œsophagus.—Dr. Dujardin-Beaumetz has treated a case of stricture of the œsophagus successfully by electrolysis, and the patient was present at a meeting of the Academy of Medicine. It is a new application of the principle which has been so successful in the hands of Dr. Fort, for treating stricture of the urethra.

The Transmission of Infectious Diseases from Mother to Fœtus (*Le Progrès Medical*).—It is in the present day an acknowledged fact that disease may be transmitted from the mother to the fœtus, and Dr. Netter has reported a case in which acute pneumonia of the right apex was thus transmitted. A woman in her sixth pregnancy was suffering from pneumonia, and was confined of a seven and a half months' child, which lived five days, and then died without showing any physical signs of pneumonia. The *post-mortem* revealed a true pneumonia of the upper right lobe, double fibrinous pleurisy, pericarditis, cerebro-spinal meningitis with suppurating otitis, and a yellowish clot in the right side of heart. A bacteriological examination demonstrated the presence of Frænkel's microbe. The rarity of pneumonia at this age, and the infective form of this attack, prove that the mother must have infected the child. Dr. Netter has found in mice the placenta, and the blood in the heart of the fœtus, to contain pneumococci after the inoculation of the mother, and Foa and Salvoli have established the same fact with rabbits. In women, Dr. Netter has seen three other instances in which pneumonia of the mother, was present also in the newly-born child, and he believes that the reason that these cases do not occur more frequently, is that the infective pneumonia becomes translated into allied affections.

Calculous Cholecystitis (*Le Progrès Medical*).—Dr. Latouche has recorded a case of cholecystrotomy, in which eighty-four gall stones were removed; the patient survived the operation two months. The case was that of a woman æt. forty-two, who had suffered for some months from a tumour in the right hypochondriac region. About eighteen months previously she had a severe attack of hepatic colic, lasting several hours. The general health was good, and the tumour did not extend beyond the median line, but extended far backwards. It was thought to be a hydatid cyst, and a puncture was made with Potain's apparatus, when 250 grammes of bile escaped. A short time afterwards laparotomy was performed, and a distended gall bladder, surrounded by dense false membranes, was revealed. Eighty-four gall stones of various dimensions were then removed, and after thorough exploration, the cavity was washed out, and drainage was provided for. Temperature 37.8 centigrade, pulse rather rapid. For six weeks there was no unfavourable symptom, but then jaundice suddenly appeared with a great increase in the size of the liver, and the patient died two months after the operation from some obscure hepatic disease.

An Almond in the Right Bronchus (*Le Progrès Medical*).—Dr. Jalaguier reports a case in which the almond contained in a sweetmeat found its way into the right bronchus, and there remained five days. Tracheotomy became necessary owing to laryngeal spasm on the fourth day, but it was only on the fifth day that the foregn body could be extracted.

Births in Paris (*Le Progrès Medical*).—Between the 3rd and 9th March, 1889, 1,253 births were registered in Paris, of these 667 were boys and 586 were girls. Nine hundred and two were legitimate and 351 illegitimate. Not quite a third of the male children born were illegitimate; whilst very nearly a half of the girls were born out of wedlock. It would be interesting to know whether this discrepancy is accidental or constant.

Salol in Infantile Therapeutics (*Journal de Médicine de Paris*).—Salol has been employed by Demme in four cases of articular rheumatism, in two cases of acute endocarditis, and in two cases of vesical catarrh, besides which he has prescribed it for external use in two cases of burns. Two children, æt. eight and fourteen, suffering from acute rheumatic polyarthritis, were given in twenty-four hours 2·40 grammes of salol, and the treatment was continued for five days in one case, and for seven days in the other. As the temperature diminished the daily dose was reduced to 1·44 grammes. Salol does not act rapidly, the disease lasting about fifteen days, but on the other hand there is no relapse. A girl, æt. seven, also the subject of rheumatism took, with intervals, as much as 3.35 grammes of salol. In forty-eight hours the temperature was reduced from 39.8° to 37.2° C.; at the same time the pain decreased considerably as well as the swelling of the foot, right knee, and left elbow. In another case, that a girl, æt. nine, salol did not do any good; its administration was

followed by sickness and an eruption of urticaria appeared in eight or ten hours; there was no change in the condition of the joints or in the degree of fever. Salicylate of soda was substituted, and in eight hours the symptoms had subsided, but a relapse shortly followed. Antipyrin was then ordered (3.35 grammes), and after four days health was re-established. In endocarditis, salol proved beneficial when the pulse was influenced by digitalis, and in a case of cystitis caused by cantharides, it also acted favourably, the pain was diminished, the urinary secretion increased, and the alkaline reaction, and muco pus disappeared. Towards the close of the treatment the urine became of a green, brown colour, similar to that which results from phenic acid.

Catholic Faculty of Medicine at Lyons (*Gazette Hebdomadaire des Sciences Médicales*).—A second subscription list, amounting to 225,000 francs, has been added to the former one of 400,000 francs, and a further list has been promised, and will shortly be published. The funds necessary for the construction and maintenance of a first hospital are now provided.

Abridged Dictionary of Physical and Natural Sciences, by Felix Alcan (*Gazette Hebdomadaire des Sciences Médicales*).—The work supplies a gap in the libraries of those who are unable to purchase larger dictionaries, and will be useful to all those who are interested in science, or who read scientific books and journals, or the transactions of learned societies. Readers are often puzzled by technical terms which are not found in general lexicons. It will also prove very useful to foreigners, as the dictionaries of two languages do not contain the explanation of many scientific words.

The Spirit of the Societies.

Nottingham Medico-Chirurgical Society (H. Handford, M.D., president.) **Infantile Scurvy.**—An admirable address was delivered by Dr. Thomas Barlow, of London, on infantile scurvy, and its relation to artificial feeding; he showed numerous pathological specimens, photographs, drawings and diagrams, illustrating the subperiosteal hæmorrhages, and other conditions characteristic of the disease.

Acute Tetanus.—Dr. Enoch Snell read notes on a case of this disease which terminated fatally twenty-three hours and a half after the first appearance of trismus and vertigo. The patient was a builder, æt. twenty-seven, and had a syphilitic history. The only discoverable wound was a small sore over a node on the left shin. The last visit was paid about nine hours before death, and up to that time there was no perceptible elevation of temperature. Death was entirely due to tonic spasm of the muscles of respiration.

Treatment of Empyema.—Dr. Kingdon read a paper on the treatment of empyema, and showed several cases which had been cured by free drainage and irrigation in the Nottingham General Hospital.

Dr. Elder showed specimens of (1) large ovarian cystoma; (2) inflammatory uterine appendages; (3) left ovary, with ruptured ovarian artery—all successfully removed from patients under his care in the Samaritan Hospital.

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Clinical Society of Manchester (Leslie Jones, M.D., president). **Constitutional Syphilis.**—Dr. Simpson showed a boy nearly fourteen years of age who had suffered from constitutional syphilis for several years. There was destruction of the soft palate, with contraction of the faucial opening, and complete destruction of the tongue. There was great difficulty in obtaining any light on the origin of diseases, but what history there was pointed rather to acquired than congenital syphilis.

Spina Bifida.—Dr. Stanmore Bishop showed a case of spina bifida.

Massage.—Dr. Wahltuch read a paper in which, after a short historical review, he explained and demonstrated the various manipulations in massage. The whole paper will be found in our Original Communications, page 220.

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Manchester Medical Society (James Ross, M.D., president). **Laryngeal Polypi.**—Dr. Thomas Harris exhibited a woman, æt. forty-three, who had suffered from almost complete aphonia since she was thirteen years old. When first she came to Dr. Harris the larynx was full of polypi, only a small aperture existing at the posterior part, through which the patient could breathe. He had removed the greater number of growths with the laryngeal forceps, and proposed to destroy the two remaining growths with the galvanic cautery. Microscopical examination showed the growths to be simple papillomata, which had a very thick covering of squamous epithelium, the surface layer of cells being very closely packed together, just like a hard warty growth of the skin. The case was also interesting in consequence of the long duration of the growths. It was probable that they had existed twenty-one years, but had never been diagnosed until a few months previously, when a laryngoscopic examination was made for the first time. The patient was in a moderately good position, and had been under treatment repeatedly for hoarseness and difficulty of breathing.

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Medical Society of London (Sir William MacCormac, president). **Ulceration of the Tongue cured by Opium.**—Mr. Shield showed a man, fifty-six years of age, who had suffered for three years from obstinate ulceration of the sides of the tongue and gums, which resisted all kinds of treatment. He was a temperate man, and had never had syphilis. There was a good deal of fœtor and salivation. The glands were not enlarged. After trying various methods of treatment, he gave the man a grain of opium three times a day. He rapidly improved, the pain being assuaged, and his general health better.

Case of Excision of Knee-joint by Vertical Incision.—Mr. Herbert Allingham showed two cases of central vertical excision of the knee-joint, and one of division of the ligamentum patellæ of many years standing, the result of accident. He insisted on the fact that it was possible to thoroughly explore the joint by means of this incision, which had the advantage of not weakening the action of the muscles subsequently. He had operated on six cases in that manner.

Subcutaneous Rheumatic Nodules.—Dr. A. Garrod showed a lad, æt. fourteen, with rheumatic family antecedents, and a history of having had rheumatic fever four years ago. He had loud presystolic and systolic nitral murmurs. For five months he had had rheumatic nodules in various parts of the body, especially near the elbows and the knees. The only other rheumatic manifestations observed during the present attack was stiffness of joints, rapidly yielding to treatment. The general health of the patient appeared good.

Sporadic Cretinism and Bossed Skull.—Dr. Angel Money showed a child, æt. three years, with marked signs of cretinism. The chief interest in the case was a considerable bossing of both parietal bones, giving rise to a maliform skull. The bossing might have been due to bad feeding, to syphilis, or to the same cause as the cretinism. It was possible that congenital syphilis might be an occasional cause of cretinism.

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Clinical Society of London (Christopher Heath, president). **Suppression of Urine caused by Impaction of Calculi in both Ureters relieved by Operation.**—Dr. C. H. Ralfe and Mr. R. J. Godlee furnished particulars of this case. The subject, a lady twenty-six years, had suffered from rheumatism four years previously, and also from renal colic on both sides and hæmaturic. On July 31st, 1888, she had an attack of renal colic, which passed off, and on August 8th had complete suppression of urine for fifty-three hours. The left kidney was exposed in the usual manner, and incised, very little urine escaped, and no stone was found; but on passing the finger down the course of the ureter a small stone was felt about two inches below the kidney. The ureter was drawn towards the wound, and opened by an incision sufficient to allow of withdrawal of the stone; a tube was left in the kidney. There was an immediate relief of the symptoms. Large quantities of urine were passed by the wound, but none by the urethra for three days. On August 13th there was a slight attack of right renal colic, and another on the 23rd. On the 15th, the tube and stitches were removed, and on the 28th the wound was completely healed. On September 3rd, the right kidney was incised, but only a mass of gravel was found in it, and no stone was found in the uretha, though it was traced down as far as the point where it crosses the iliac vessels. Blood appeared in the urine immediately after the operation, and also gravel. The bladder was also sounded, but no stone was struck. On the following day a small stone was passed per urethram. Between this and the end of October the patient had three attacks of colic, which were rather severe. She is now, however, perfectly well.

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Hunterian Society (R. Clement Lucas, B.Sc., F.R.C.S., president). **Peripheral Neuritis following Typhoid Fever.**—Mr. F. Rowland Humphreys showed a case in a girl, æt. three years.

She had an attack of typhoid fever in September last, with cerebral symptoms, etc. In the fourth week the abdominal reflexes were greatly increased with pain and flexion of the legs. On November 15th, she was able to sit up, but could not lift either leg or walk. To the faradic current there was no response in any of the muscles of the lower extremities. A week later the right extremities were greatly improved, but the left abdominal muscles were noticed to "belly out" with crying or movement. The reaction was similar to that of the other muscles. On December 23rd, the child was able to walk a few steps by herself, and on February 26th, all the muscles, except the left tibialis anticus and the abductors of the left thigh, and the abdominal muscles reacted to the interrupted current, and the child walked fairly well.

Hydatid of the Liver.—Mr. John Poland showed a case of cured hydatid of the liver in a boy, æt. seventeen years. The swelling had appeared for a little over five months and a half previously, and had steadily increased. Pus, with some hooklets, was withdrawn by the aspirator. Four days later, a free incision three inches and a half in length, under carbolic spray, was made through the abdominal walls and peritoneal cavity into the cyst, cutting through about an eight of an inch of sclerosed liver tissue. The cyst was freely opened, and the liver carefully stitched to the peritoneum and the abdominal wall. About five or six pints of pus were evacuated, besides hydatid membranes, and a large drainage tube introduced. Three weeks after the operation the wound was completely closed, and the patient well.

Dislocation of Feet.—Mr. W. F. Hall stated a case of sub-astragaloid dislocation of both feet, under the care of the president. The displacement occurred seventeen years ago through the man, æt. forty-five, falling into a threshing machine. The dislocation was most marked in the right foot, where besides the subastragaloid luxation, the astragalus was twisted on its rectical axis, the tread of the foot occurring on the tread of that bone which pointed forward, downwards, and inwards, and was covered with a large bursa. In both feet the arches were lost, the soles presenting a perfectly flat surface. In both feet also the toes were pointed outwards, but more markedly in the right, the whole deformity presenting an appearance like that of flat foot.

Cork Medical Society (Francis Greene, M.D., in the chair). **Exfoliation of Parietal Bone.**—Dr. Macartay read notes of a case of fracture of the skull, followed by exfoliation of the parietal bone. He exhibited two pieces involving the entire thickness of the bone.

Treatment of Genu Varum.—Dr. Grattan exhibited a little girl, whom he treated by fracture with his special clamp. The limbs were perfectly straight, and the patient could walk well.

Craniotomy.—Dr. Greene read notes of a case in which he had performed craniotomy and evisceration. Injections of antiseptics after removal of the placenta were used, and the patient made a good recovery. Several members joined in the discussion which followed.

Sudden Death after Parturition.—Dr. Burke related a case. The patient a primapara, æt. forty, had a difficult labour on November 24th, with instrumental delivery. On the fourth day the temperature rose to 102°, but subsided two days later. She progressed favourably until December 9th, when symptoms of lobar pneumonia suddenly developed at the right base; this resolved under treatment without leaving any trace. On December 18th, having eaten a good dinner, and to all appearances being perfectly healthy, she was seized suddenly with a violent pain in the cardiac region, and expired at once. A discussion as to the cause of death followed.

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Pathological Society of London (W. H. Dickinson, M.D., F.R.C.P., president). **Bronchial Carcinoma.**—The Secretary read the report of the Morbid Growths Committee on Dr. Handford's specimen of carcinoma of the left bronchus, which had been referred to them at the meeting held on February 5th, 1889. The members of the Committee stated that they agreed with the views of the author; that the specimen was a primary carcinoma of the mucous membrane of the bronchus.

Congenital Growth of the Larynx.—Mr. Lennox Browne exhibited the larynx of a child, æt. three, who had since birth been the subject of neoplasms which had blocked the glottis to such an extent as to threaten asphyxia. Intubation was attempted, but causing hæmorrhage, tracheotomy was promptly performed. Active bleedings had taken place twenty-four hours later, and death occurred forty hours after the operation. The necropsy demonstrated that the first hæmorrhage occurred from an abrasion of a growth on the right vocal cord by the intubation instrument, but that the latter ones were due to the circumstance that the lungs had never properly expanded, being no larger than those of a newly-born infant, and that the tissue had given way under the suddenly increased volume of air afforded through the tracheotomy tube. The case was interesting, as presenting a hitherto unrecorded danger of tracheotomy in cases of congenital laryngeal obstruction, and also as pointing to the risk in performing intubation in cases of laryngeal growths. Mr. Bland Sutton asked what was the nature of the growth. Mr. Lennox Browne replied that it was a true papilloma.

Syphilitic Ulceration of Trachea and Large Bronchi.—Dr. Gulliver showed and described a specimen of this nature which had been taken from the body of a woman, æt. thirty-two. The lower part of the trachea was ulcerated, also the bronchi. The ulcers were elongated in form and transverse in construction. The syphilitic lesion found was ulceration of the palate. The cause of death was broncho-pneumonia.—Dr. Penrose asked if a microscopical examination had been made?—Dr. Gulliver said none had been made, as it was not considered necessary.—Dr. Quain asked what was the condition of the bronchial glands? and referred to their enlargement being a cause of stridor.—Dr. Gulliver said in this case the stridor was due to the construction of the trachea, though the bronchial glands were enlarged secondarily to the ulceration.

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Royal Academy of Medicine, Ireland. *Section of Obstetrics.* Friday, February 1st, 1889 (W. J. Smyly, M.D., F.K.Q.C.P., president). **Amputation of Cervix Uteri in Treatment of Uterine Cancer and Cervical Injuries.**—Dr. More Madden read a communication on the above subject. He described from the standpoint of his own clinical experience, as well as from the literature of the subject, the expediency of the timely removal of the cervix uteri in cases of threatened or early existing malignant disease. Moreover, he further urges the utility of this operation as a substitute for cervical tracheloraphy in some cases of laceration and its consequences. Cancer of the uterus is not only the most formidable, but is also unfortunately amongst the most frequent of all the special diseases to which women are subject, and in the great majority of cases he believes it originates as a local disease in the cervix, in which, if there recognised in time, and treated by immediate intra-vaginal amputation of the cervix, it may possibly be arrested. Secondly, if not thus checked, the subsequent extirpation of the entire uterus, as now advocated by some authorities, is an operation which, if not worse than useless, can seldom be resorted to with any great probability of ultimate success. And thirdly, that in cases in which, as will be shown, there is a likelihood of cancer becoming subsequently developed in cicatricial tissue resulting from extensive parturient lacerations not reparable by tracheloraphy, the cervix should be unhesitatingly removed as the only effectual preventive measure for a disease for which, when established, there exists no reliable curative treatment. Within the last twelve years a very considerable number of cases of uterine cancer, chiefly epithelioma, have come under observation in the gynæcological department of the Mater Misericordiæ Hospital, and in the great majority of these the disease primarily manifested itself in the cervix, whence, if unchecked, it gradually extended upwards into the body of the uterus.

The future of this disease will be better if we operate early. This, however, depends on our early diagnosis, and under these circumstances the diagnostic utility of the curette becomes unquestionable; and for this purpose its cautious employment, so as to bring away a sufficient amount of the abnormal tissue for microscopic examination, should immediately be resorted to in every case of suspected or possible adenomatous or cancerous degeneration.

The question of the expediency of operative interference in these cases, by removal of the cancerous cervix, must be determined on similar principles to those recognised in other forms of malignant disease. Thus, for instance, no surgeon would be justified in amputating the cervix in cases where the cancerous cachexia was well established and obvious in the general aspect of the patient, or where the disease was either developing with unusual force and rapidity, or else had extended beyond the cervical zone, as to render it impossible to thus remove completely the implicated part.

Within the past few years the writer has amputated the cervix in eighteen cases for cancer, or what appeared to him to be symptoms of incipient cancer; and all the patients thus treated recovered from the immediate effects of the operation. In four of them the disease recurred either in the uterus or elsewhere within a year; in two it returned within two years; in one instance the patient returned two and a half years subsequently, with a large cancerous ulcer of leg, from which she died shortly afterwards; and in another it recurred two years later. Ten cases have results since continued, as far as he knows, in

good health. The comparative value of extirpation of uterus having been first discussed, considering, therefore, the extreme liability to the occurrence of cancer in the vicinity of cervical lacerations, the difficulty of early recognition of the disease and the great uncertainty of treatment by any operation after the disease has become evident, Dr. More Madden would, therefore, venture to urge the removal of the cervix, not only in cases of cervical cancer, but also in all cases of extensive areolar hyperplasia consequent on parturient laceration as a preventive of the possible development of uterine cancer. This rule of practice may be objected to, as involving an unjustifiable and meddlesome surgical interposition in cases where the disease might never occur were the patient left unmutilated by the removal of the cervix uteri. But though this may possibly have been the case in some of the instances in which he performed the operation in question, it will bear that reproach with perfect equanimity as long as he is satisfied that by its adoption he has been instrumental in any single instance in warding off a disease so dire as cancer, which, as before observed, clinical experience has proved most liable to attack the cervical tissues in the cases above refefred to.

With regard to the utility of amputation as a substitute for cervical trachelorraphy in some instances, Dr. More Madden urges that in certain cases of extensive stellate laceration of long standing, with considerable loss of substance, and accompanied with chronic inflammatory conditions of the adjacent structures, or cellulitis, as well as with hypertrophy or hyperplasia of the injured cervix, caused by inflammatory exudations, trachelorraphy is inapplicable, and such cases may, he believes, be better treated by the amputation of the mutilated and diseased cervix. Moreover, this operation, according to his experience, is fully justifiable in some cases of non-traumatic hyperplasia, and chronic parenchymatous cervicitis, more especially, as already pointed out, in patients who are hereditarily predisposed to malignant disease, as well as in some instances of cancer of the cervix, either as the most certain prophylactic of uterine cancer, or else as a possible curative measure in the early period of the disease, or, if for nothing else, merely to relieve suffering, if not to prolong life in its latter stage. Finally, although in the majority of the cases of laceration in which the cervix has been removed the patients have since remained sterile, still, on the other hand, there can be no doubt that this operation is called for in some cases of sterility, resultfrom the mechanical obstacle to impregnation offered by a greatly hypertrophied, elongated, and conical cervix uteri.

Within the last few years Dr. More Madden has, for the foregoing reasons, amputated the cervix in a considerable number of instances; and so far at least he has had no experience of the many disastrous consequences that some writers insist on ascribing to this operation, but which he thinks may possibly, in some instances at least, have originated from want of familiarity with the details of the procedure by which it may be best accomplished, as well as from its employment in unsuitable cases.

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Yorkshire Association of Sanitary Inspectors.—On March 16th, the quarterly meeting of the Yorkshire Association of Sanitary Inspectors was held in the Town Hall, Halifax. There was a large attendance, including representatives from the following places :—Leeds, Bradford, Halifax, York, Goole, Sowerby Bridge, Elland, Holmfirth, Tadcaster, Keighley, Barnsley, Bingley, New Mills, Batley, Huddersfield, Hebden Bridge, Netherton, Altofts, Ovenden, South Crosland, Ilkley, Kirkheaton, Rothwell, Thornton, Heckmondwike, Dewsbury, Cleckheaton, and Wetherby. Several members of the Halifax Corporation were present, including Alderman Pollard, Mr. J. Mann, Mr. I. F. Coe, and Mr. J. Wadsworth, members of the Sanitary Committee. Prior to the meeting the gentlemen visited the Corporation sanitary works at Stoney Royd.

Mr. T. Pridgin Teale the president, was announced to preside, and until his arrival Dr. T. M. Dolan was voted to the chair.

In opening the proceedings, Dr. Dolan pointed out that the members of the association were, as it were, sanitary missioners, going about the country to preach sanitation. By the strict carrying out of sanitary measures the appalling mortality of the country might be much reduced. He had pleasure in bearing testimony to the good work done by the sanitary authorities at Halifax, and to the interest taken in sanitation by the members of the Sanitary Committee. In Halifax they were fortunate in the possession of a good water supply, and it was pleasing to note the regulations that were carried out as to cleansing the streets, &c.

Mr. Teale, who arrived shortly after the conclusion of Dr. Dolan's remarks, then took the chair.

Dr. G. Goldie (medical officer of health, Leeds) read a paper entitled "The Necessity for Public Notification of Infectious Disease, and the Difficulties," in the course of which he said his experience of sixteen years had convinced him that sanitary inspectors were as much interested in that subject as medical officers of health. They were advocating legislation to enforce the public notification of infectious diseases. Small-pox, he proceeded, was especially dangerous and contagious, and in order to prevent its spread, it was very necessary to isolate and notify the case. Typhus, although very liable to spread, could be much more easily dealt whith. He had frequently been called in to disinfect a house in which an infectious disease raged, where he felt he was "locking the stable door when the horse was gone." He urged that there was no more interference with the liberty of the subject in compelling the notification of disease than there was in the compulsory registration of births, marriages, and deaths, and also vaccination. A second form of objection to notification was that the patients would be sent to the hospital, but he pointed out that compulsory notification would not in that respect alter in any way the requirements of the Public Health Act, 1875. The medical attendent must necessarily be the first to notifiy the disease. He must tell the person in charge of the patient of the disease such patient was suffering from; and why should he not notify straight to the sanitary authorities?

In the discussion which followed Mr. Atkinson (York) said they had compulsory notification in that city, and it had worked satisfactorily.—Mr. Sykes (Holmfirth) urged that they should endeavour to attain their object with as little friction as possible. All law was in a sense compulsory. Hence there was nothing very objectionable in that, but they wanted to look at the matter all round, and devise the best means by which their object could be attained.—The Chairman expressed the opinion that the country must come to it sooner or latter. Its establishment was the natural outcome of sanitary work. Why should not the fact of illness be communicated to the authorities at its beginning, as they must necessarily communicate it at the end? The fact that public notification was already in force in some forty towns in the kingdom, and that it was working satisfactorily, showed that it must come to be a national thing. When the time came for its adoption, there would not, he believed, be the opposition to it on the part of the medical profession which would have been the case some four years ago.

In his reply on the discussion, Dr. Goldie expressed the opinion that local notification was of very little use. He asked distinctly for an Imperial public Act. He saw no medical difficulty in the matter at all. An Imperial Act rendering notification compulsory would also have the effect of compelling urban rural authorities to provide hospitals to which cases could be removed.

Mr. J. E. Coe (a member of the Halifax Town Council) moved a vote of thanks to Dr. Goldie for his paper. This was seconded by Alderman Pollard, and was cordially given.

Dr. Solomon C. Smith (Halifax) read a paper on the subject of "Syphonage as a cause of ineffectual trapping." Syphonage was the vice which traps possessed of sucking up the water, without which a trap was useless. One of the causes of syphonage was capillary attraction, and was a very fertile cause indeed. One method of preventing this form of syphonage was by putting a good grating at the top, so as to prevent hairs and such things from getting into the trap. Another preventive was by having the interior of the trap as smooth as possible. The pressure of the atmosphere was another cause of syphonage, and Dr. Smith proceeded to illustrate this in an interesting manner. Suction by the water falling down from the pipes, friction of the water passing the junctions in the pipes and the air friction caused by freely-flowing water down a soil pipe were the main causes of syphonage, but he wished to point out that none of these causes would of themselves empty the trap, because the drain side of the trap would always be left full. The remedies he recommended, so far as traps were concerned, were a quick bend; deep, straight up-and-down traps, which work the best, and the up-cast shafts, widened as much as possible. But no trap would resist soap and gummy materials. They must find something to resist syphonage outside the trap itself, and that was by a ventilation pipe. The only thing that could, in his opinion, radically cure this vice of syphonage was by having ventilation from the top of the trap, and it would pay eventually by the increased durability of the trap through its being protected from the corrosive action of foul air.

A cordial vote of thanks was accorded to Dr. Smith for his paper.

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British Gynæcological Society, March 13th, 1889 (Dr. Dolan, Vice-president, in the chair).—The President said that in the absence of Dr. Macan, he would, on taking the chair, express his sense of the honour done him in electing him a vice-president of this important and prosperous Society, but he took it that it was meant as an expression of

recognition of the large class he represented, and as another instance of the cosmopolitan spirit of the Society which did not confine its honours to one class, or to one locality.

The Secretary read the report of the last meeting of the Council, at which the following resolution was passed :—

"In the opinion of the Council it is highly detrimental to the interests of the British Gynæcological Society that its Fellows should advertise their medical works, or allow them to be advertised, in the lay press."

The resolution was moved by Mr. Lawson Tait, seconded by Dr. Bantock, and adopted unanimously.

Mr. Tait congratulated the Society upon having obtained the adhesion of the Professor of Midwifery of the University of Edinburgh as a Fellow of the Society.

Fibroid Tumour of the Uterus.—Dr. Bantock then showed a specimen which he said raised the question of the removal of fibroid tumours of the uterus. The question had been raised as to the class of cases most suitable for removal of the appendages and those best dwelt with by hysterectomy. The case in point was one for the removal of the tumour. It was one of those soft fibroids which attained such enormous dimensions. They were very rapidly in growth, and in that case the existence of the tumour had only been noticed a few months before. It was situated in the right broad ligament, and was adherent to the right side of the uterus, as shown by the red surface in the specimen. It was shelled out of the broad liagment with readiness until he got down to the pedicle, when he had to apply a ligature. The patient recovered without a bad symptom. She was a single woman, æt. forty. He had operated on the 4th of the month, and she was now quite convalescent. The tumour weighed three pounds three ounces.

Case of Twisted Pedicle.—The second specimen illustrated another subject of recent discussion. It was a case of twisted pedicle of a dermoid cyst. The Fallopian tube which was seen on the surface was in an œdematous condition. It illustrated the remarks he had made some time ago, when Dr. R. T. Smith brought forward a case of twisted pedicle. The patient had been brought to him about three weeks ago in a very distressing condition. She had been seized a week before with sickness, acccompanied with severe abdominal pain and extreme shock. He discovered a tumour on the lower part of the abdomen, more particularly on the right side. He at once ventured on the diagnosis, that the symptoms were due to the twisting of the pedicle of an ovarian tumour. They had only been able to operate on her on that day. He recalled that when the matter was under discussion he had expressed the opinion that it was not desirable to operate upon the patient while suffering from the immediate symptoms of twisting of the pedicle, and particularly to the accident that usually accompanied twisting of the pedicle—viz., hæmorrhage into the sac, which appeared to have more to do with it in the production of the shock than the twisting itself. In this patient the pedicle was twisted about one and a half turns ; it was not absolutely strangulated, but it was pretty nearly complete, and there had been hæmorrhage in the small cavity at the time of the accident. He thought that Dr. Smith's case supported this contention that it was unwise to operate during the continuance of the shock, and he could point to another case in the same condition and with the same result. He thought it was best to allow such patients to remain quiet for some time, in order that the acute symptoms might subside. A tumour, if completely strangulated, would contract adhesions to surrounding structures, and its death would thus be prevented. His conclusions had been the result of his invariable experience. He had never seen a patient die from a twisted pedicle, nor from hæmorrhage into the interior of the sac, nor had he ever heard of such a case.

The President asked Dr. Bantock whether he had understood him to say that there was shock with or without hæmorrhage ?

Dr. Bantock, in reply, said he was quite sure in his own mind whether the shock was contributed to by the twisting of the pedicle, or not the tension induced by the hæmorrhage had a good deal to do with it.

Mr. Lawson Tait said he could give a melancholy example of the results of leaving uterine fibroids alone. A lady, æt. sixty, was sent to him from Nottingham with an enormous soft œdematous myoma. Twelve years before she had been to consult Sir Spencer Wells, who for some reason advised that nothing should be done. The patient went on bleeding continuously, her menstruation practically never ceasing. The tumour went on increasing in size, and when she came to him on the 10th of December last it was of an enormous size. He advised immediate operation—warning, however, the patient that in her exhausted condition recovery was materially interfered with. She nevertheless eagerly requested the operation, as did her husband. He therefore operated, shelling it out as easily as possible, but the shock was so great that the patient never rallied from the operation, and she died about thirty-six hours after. He asserted that if the patient had been operated upon twelve years earlier, when she was fifty instead of sixty, and with ten years less of suffering and hæmorrhage, her chances of recovery would have been materially increased. As to the other points, he and Dr. Bantock were not so much agreed. He had seen thirty or forty cases of twisted pedicles or parovarian tumours, and he was strongly of opinion that it was the twisting *per se* that caused the shock. He had seen the severest shock without a drop of hæmorrhage. The balance of evidence was in favour of twisting as the cause of the shock. His rule was to operate as soon as he could get to the patient, and he had not lost a single patient. The only case of twisted pedicle under his care which proved false was one in which he did not operate, rather, he had operated in a very bad way. He must plead his youth and want of experience as an excuse; but the fact was that having found a lump in the patient's groin, she being collapsed and vomiting, he regarded it as a case of femoral or inguinal hernia, and operated for that, as he then thought, successfully. At the *post-mortem* it turned out that it was not a hernia at all, but a small hammer-headed tumour of two cysts, which had twisted and become hæmorrhagic, and the patient died from shock. It was not the amount of the hæmorrhage in that case that had determined the shock, for she could have lost two or three times the amount of blood without hurt.

Dr. R. T. Smith asked Dr. Bantock how long he had operated after he found the patient suffering from shock ? Also, had the mischief any relation to the catamenial period ? He mentioned that in both his own cases the twisting occurred when the patient was unwell, and in the course of a few day from the symptoms the shock began to pass off. In both his cases, too, the tumours were very large, one reaching fully three inches above the umbilicus. He asked whether there were any old adhesions in that case. In his first case the patient had been tapped some months before, and the folds of the tumour were agglutinated. He thought that in contracting they might have had something to do with the twisting. Their pathologist thought that this might have been the case. He thought it was important to get facts together bearing on this point. In the case that died, of course they must remember that she had pronounced granular degeneration of the kidneys. They found afterwards that the patient was accustomed to drink. In neither case did he operate for three days after the symptoms, and in the last case the patient had rallied very materially; in fact, she was so much better that he had thought it as well to postpone the operation until the following morning.

Dr. Edis, in relation to the first specimen, said that the fibroids were very rapid in growth, and sometimes obscure. He pointed out that amenorrhœa could not be relied upon to distinguish between fibroid and other tumours. He observed that all men were not ovariotomists : what they wanted was a first help in time of need—to know what were the points they ought to take up, and how to distinguish between fibroid and any other tumour; also to distinguish between those that might be operated on, and those that were best left alone.

The President said the diagnosis was always difficult with all classes, as well as the general practitioner. He related a case, with the facts of which he was familiar, as a set-off to the remarks of Dr. Edis. A very eminent surgeon came down to the country to give his opinion in respect of a case; and after a careful examination, he decided to operate next morning, but in the night the patient (a married woman) was delivered of a baby.

Dr. Macnaughton Jones said it would be a very difficult thing to draw a sharp line of demarcation, as suggested by Dr. Edis. He said that practitioners were at great pains to arrive at a correct diagnosis, and before concentrating their attention on endeavours to prevent his making mistakes, they might do well to look nearer home.

Dr. Rutherford said that in many cases, when the pedicle was tied in ovariotomy, etc., the patient had shown signs of collapse. He thought that fact bore out the views of Mr. Tait.

Dr. Bantock, in reply, said that three weeks had elapsed between the advent of the symptoms of shock and the operation. There was no connection between the occurrence of the twist and menstruation, nor could he remember any such connection as having existed in any of the many cases which he had been enabled to observe.

Dr. Routh showed an instrument which he had designed to enable surgeons to apply the wire of the écraseur or galvano-cautery high up, and to maintain the pressure. It was a very ingenious piece of mechanism, and met with the approval of the members present.

Dr. Macnaughton Jones read a paper on the "Use and Abuse of Massage," published at page 213.

On the motion of Dr. Barnes, seconded by Dr. Bantock, the discussion of this important paper was adjourned until the next meeting, Wednesday, March 29th.

Gynæcological Society of Chicago.—At a meeting of this Society, Dr. Henry Byford presented for Dr. W. Byford the following specimens: **Fatty Tumour of the Suprarenal Capsule.**—The specimen I now wish to describe, he said, is a supposed fatty tumour of the supra-renal capsule, but it was unfortunately allowed to spoil and cannot be exhibited. Mrs. Silva Walker, Pataha, W. T.; æt. thirty-eight; American. Married twenty years; has had five children, eldest nineteen, youngest ten. No miscarriages. One year and a half ago first noticed increase in size of abdomen in right side and through pelvis. Slight backache. Size increased very rapidly the last six months. Menstruation regular and normal. She was operated on November 25th, 1888, and is getting well. This, I believe, is the only fatty tumour of the suprarenal capsule which I can find on record that has been removed before death. A few have been discovered at autopsies. It weighed twenty pounds. As it filled the abdomen so completely, even pressing down the uterus, its place of origin was not determined before the operation. A future of importance in the case was the manner in which the growth was removed. It was enucleated from the capsule, and the capsule sewed with catgut and trimmed so as to make a canal from the bed of the tumour up to the external abdominal walls. The edges of this canal or sac were sewed into the abdominal wound so as to shut off the abdominal cavity; the bed of the tumour was thus treated extra-peritoneally. The kidney was removed. Whether it might have been safely left or not is a debatable question; the chances were it would have undergone inflammatory changes. Its vessels were ligatured, and the ligatures left in the capsule. A large exposed vein, at the bottom of the cavity, was clamped with hæmostatic forceps, and a large bleeding surface, on the under aspect of the diaphragm about the normal attachment of the supra-renal capsule, was gathered together in the blades of two long hœmostatic forceps. The forceps were taken off at the end of thirty hours. The patient has done very well since. The tissues, which were caught in the bite of the forceps, have sloughed out, and the cavity is healing. The other kidney secretes twenty to forty ounces of normal urine a day.

Dr. Parkes: How did you come to settle definitely that this tumour grew from the supra-renal capsule—why not from the post-peritoneal fat for a basis?

Dr. Byford: The supra-renal capsule was not found, but this tumour was attached to the under surface of the diaphragm where the supra-renal usually is. The tumour now developed above and over the anterior surface of the kidney, and did not lift the kidney forward, but rather held it back in place. There was no indication of unusual fatty development in any of the tissues about. The firmness of the capsule and its relations after enucleation favoured my view. A post-peritoneal fatty tumour about the kidney would have more lateral attachment, and, I think, develop more down the side into the iliac fossa; whereas this one, which was freely movable, pressed down in the centre of the pelvis so as to give the impression at first that it was attached to the uterus. All these facts have led me to consider the supra-renal capsule as the starting point.

Cysto-Fibromyoma of the Uterus.—The last specimen I have to show is a fibro-cystic tumour of the uterus weighing 30lbs. It was surrounded by 45 pints of ascitic fluid, so that the patient was relieved of 75lbs. of weight by the operation. What was left of her weighed about 90lbs. On the right side it has undergone myxomatous degeneration. A peculiarity is that the uterine cavity is completely obliterated half an inch below the normal-sized fundus by the tumour, and begins again lower down. The patient was about forty-four years of age and menstruated scantily. The tumour, which is known to have been growing over fifteen years, started below the fundus in the posterior uterine wall. The broad ligaments were ligated seperately, and the uterine stump treated extraperitoneally. This is the sixth day since the operation. There has been but little reaction, the drainage tube is about dry, the patient is hungry, and has commenced to direct the household affairs. Flatus passed freely from the beginning. Formerly, when I was an adherent of the intra-peritoneal method of treating the the stump, I stood in great awe of abdominal hysterectomy for fibroids, but since adopting the extraperitoneal method I find that the mortality is but little greater than after ovariotomy.

I would like to say that I have been found fault with for failing to bring microscopic slides of my specimens, or reports of pathologists upon three cases of alveolar sarcoma of the uterus, reported at the September meeting of this Society, and that my diagnosis was called in question. In my anxiety to take up as little of your valuable time as possible, I suppose that I must have omitted to state that, in the two cases shown, specimens were obtained by curettement a week before I removed the uteri, and were examined by pathologists—that from Mrs. M. by Dr. L. L. McArthur, that from Mrs. Sh. by Dr. W. J. Mergler. In the case referred to, in which the uterus went to pieces during removal, Dr. Doering, who was the family physician, had the specimen examined by a pathologist. The fourth case I casually mentioned was diagnosed by Dr. McArthur from specimens I obtained by curettement. In the case of sarcoma of the ovary, Dr. Bayard Holmes was my authority.

The President (Dr. Parkes): I have had under my control lately a large tumour of the abdomen. I decided that it was behind the intestine, because there was one channel passing over the surface of the tumour, in which one could get a gurgling sound and something that resembled the displacement of gas. That indicated that the intestine was in front, and so it proved. It was a pancreatic cyst.

Dr. W. W. Jaggard: The Society is to be congratulated upon the presentation of so much valuable pathological material at this particular meeting. I have been specially interested in the case of alleged ovarian pregnancy. Without for one moment questioning the accuracy of Dr. William H. Byford's diagnosis, I beg to remind the Fellows that cases of ovarian pregnancy are very rare. Werth has demonstrated the tubal origin of many of the cases recorded as ovarian. As an essential criterion of ovarian pregnancy, the possibility of the participation of the corresponding tube in the sac must be excluded. In the specimen, as it has been presented to-night, it is impossible to exclude the participation of the tube in the sac.

The President: I remember seeing a few years ago, in the office of Dr. Murphy, of St. Paul, a specimen of uterus and both ovaries removed after death. In one ovary there was a fœtus. The Fallopian tube and all were present.

IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.

Twelfth Annual Meeting.—Annual Report.—Statement by Sir Thomas Crawford.—Recognition of the Higher Diplomas of the Irish Colleges by the Army Medical Department.—Anniversary Dinner.

St. Patrick's Day falling this year on a Sunday, the twelfth annual meeting of the above association was held on Saturday, March 16th, at 11, Chandos-street, Cavendish-square. Among the members present were Professor Alex. Macalister, F.R.S. (President); Dr. Richard Fegan (President-elect); Sir Thomas Crawford, K.C.B., and Dr. Macnaughton Jones (Ex-Presidents); Director-General Dick, C.B., R.N.; Professor Sibthorpe, I.M.S.; Deputy Inspector-General F. W. Davis, R.N.; Drs. W. H. White, Phillips (Reading), G. Stoker, O'Brien Williams, R.N., Mapother, and the two Honorary Secretaries, Drs. Stewart and Abraham. The outgoing President having resigned the chair to Dr. Fegan (Blackheath), the latter proposed a vote of thanks, seconded by Sir Thomas Crawford, to Professor Macalister for his services during the previous year, the Chairman stating that the large-hearted hospitality shown by his predecessor on the occasion of their gathering at Cambridge last June merited a warm recognition. Dr. Robert McDonnell, F.R.S., was appointed President-elect. Dr. W. H. White was appointed Honorary Treasurer, *vice* Brigade-Surgeon W. Alexander, M.D., resigned, the latter being now stationed in Scotland. Dr. Cullimore and Deputy Inspector-General F. W. Davis, R.N., were appointed Honorary Auditors. A ballot having been taken for the fifteen members to serve during the coming year as non-official members of the council, the following were declared duly elected—namely, Drs. W. H. Bourke, Sir Thomas Crawford, Davison (Bournemouth), Director-General Dick, R.N., Gaven, Heath (St. Leonard's), W. B. Johnson, Douglas Lithgow, Macalister (Cambridge), Mapother, Phillips (Reading), Gilbart Smith, Waters (Chester), Charles Wells, and Gerald F. Yeo.

The annual report stated that the Association continued to increase in numbers, notwithstanding losses by deaths, resignations, and lapsed memberships. One foundation member (Dr. W. H. Evans, of Bradford, Yorks.), and two other members, Drs. Charles Davidson and Walton Dwyer, had died during the year. The total number now on the roll was 555, as against 517 on St. Patrick's Day, 1888. The usefulness of the Association in guarding the interests of Irish diplomates practising in England was shown by proceedings early in the year at the Bristol Royal Infirmary. A proposal was made at that institution—similar to one adopted the previous year at Liverpool—that future appointments (both medical and surgical) on the honorary staff should be restricted to those holding certain London diplomas. This attempt to increase the number of English public hospitals in which certain London Colleges have a monopoly of appointments was frustrated through the action of the Association in promptly enlightening local public opinion on the true merits of the question. The request

of the R.C.S.I., that inspectors should be sent to report on its Fellowship examination, had been refused by the General Medical Council, such inspection not being considered within their legal powers. "This official pronouncement being now on record," the report goes on to say, "good grounds exist for asking Parliament to grant the General Medical Council requisite additional powers." The Association had the matter of exclusion of Irish diplomates from hospital appointments brought under the notice of the General Medical Council at a subsequent session; but it was shelved by the "previous question" being moved and carried. The report concludes as follows: "With these facts before it, your Council can only recommend the adoption, in the immediate future, of a policy of watchfulness, so that in the event of restrictions being proposed elsewhere similar to those suggested last year at Bristol, active steps may be taken forthwith to prevent an injustice being done to the Irish diplomates in the locality, their qualifications being inferentially depreciated by such action." The report was adopted, as also the statement of the Hon. Treasurer, which showed a balance in favour of the Association of £131 2s. 5d. The latter was independent of a small balance to the credit of the "Special Fund" for disseminating literature bearing on the "hospital monopoly" question.

Dr. Mapother moved a resolution approving of the "policy of watchfulness" foreshadowed by the Council. He said he had been requested by the Royal College of Surgeons of Ireland to note the action of the General Medical Council when the question of the exclusion of their diplomates was brought up during the late session of that body. He regretted to find that the members of that august body (whom the profession looked upon as the *patres conscripti*) had not the courage to meet the difficulty boldly, but got out of the expression of an opinion by voting—with a few exceptions—the "previous question."

Sir Thomas Crawford, in seconding the resolution, said that it would be a great matter if the Irish colleges could dissociate themselves in this matter from the Scotch. He was glad to be able to announce that, as far as the Army Medical Department was concerned, a difference was to be made henceforth between such colleges as the Irish, which never admitted anyone to their higher diplomas without examination, and those (of which, in Scotland, he was sorry to say, there were one or two still) which granted similar diplomas only by election in some cases. According to a recent regulation, the value of these diplomas as proofs of fitness for promotion in the Army Medical Service is now measured by the character of the examination candidates are required to pass. As an Irishman, he was glad to say that the tests of the Irish colleges had been found quite up to the standard; and it would be, in his mind, a good thing for that Association to remonstrate with those Scotch colleges whose tardiness to adopt examinational tests for all candidates for higher diplomas was such a hindrance to them in getting the disabilities removed under which Irish diplomates resident in England were labouring at the present time.

Dr. George Stoker having stated, as an encouragement to the Council, that one of the London hospitals had rescinded the exclusive rule, the resolution was unanimously adopted.

It was announced that the summer provincial dinner would take place at Manchester this year at the latter end of June.

Votes of thanks having been passed (1) to the *Conversazione* and Dinner Committees, (2) to the medical journals for devoting so large an amount of their valuable space to reports of the proceedings, etc., of the Association, and (3) to the directors of the General Apothecaries' Company for granting the use of their board-room for the Association meetings before the Medical Society accepted them as tenants, the meeting separated.

The anniversary dinner took place the same evening at the Holborn Restaurant. Covers were laid for ninety-three, including Dr. Richard Quain, F.R.S.; Mr. Robert Anderson, LL.D., T.C.D.; and Messrs. George Augustus Sala and Harry Furniss (guests of the Association), as well as an unusually large number of ladies. The usual loyal toasts were duly honoured. The toasts of "Our Guests" was proposed by Professor Macalister (Mr. Harry Furniss responding); that of the "Army and Navy" by Dr. Quain (Vice-Admiral Curme and Major-General Philips responding); that of "Success to the Association" by Mr. Sala, who alluded to the honourable and gratifying record of the last eleven years which they could show of united action by men holding the most opposite views as to politics and creeds, having been achieved without even a whisper of discord during all that time—a remarkable testimony to the power of the medical bond. The health of the "Officers of the Association" was proposed by Dr. Robert Barnes, and responded to by Dr. Macnaughton Jones, who alluded to the fact that the numbers had more than quadrupled during the last four years.

The proceedings were interspersed with Irish songs, rendered by Miss Theresa Aungier and Messrs. Reginald Groome, W. B. Martin, and Joseph O'Shaughnessy.

Medical Miscellanea.

The subject of our next illustration will be Sir William Moore, K.C.I.E.

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The recent Russian congress was attended by 1,648 practitioners, of whom 162 were women. Of the latter, 105 belonged to St. Petersburg.

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The Duke of Buccleuch has placed the name of Sir James Crichton Browne, M.D., LL.D., F.R.S., on the Commission of the Peace for that county.

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The honorary degree of M.D. has been conferred on Dr. Hime, of Bradford, by the University of Dublin, Trinity College.

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M. Pasteur has been created a Baron, with the Order of the Iron Crown, by the Emperor of Austria, for distinguished services.

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The Queen has conferred the honour of K.C.B. upon Edwin Chadwick, C.B. Mr. Chadwick has received this favour in recognition of his invaluable labours in the promotion of sanitary reform.

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M. Berthelot has been elected by forty-seven votes out of fifty-three perpetual secretary of the French Academie des Sciences, in place of M. Pasteur.

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H.R.H. Prince Albert Victor will preside at a Festival Dinner at the Hotel Metropôle on May 29th, in aid of the funds of the Great Northern Hospital.

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The conjoint examinations of the Dublin Colleges of Physicians and Surgeons will commence on April 1st, and those of the College of Surgeons and Apothecaries' Hall on the 29th of the same month.

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The cause of sanitary reform has recently been brought prominently forward in Stockport, where it is proposed to establish a Voluntary Sanitary Associalion for the Borough, the object of the Association being to aid and support the authority of the Sanitary Committee.

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The subject of the Croonian Lecture, to be delivered before the Royal Society during the present year, will be: "Preventive Inoculation." The lecture will be delivered by M. Roux, and will be founded on observations made at the Pasteur Institute. It is hoped M. Pasteur will be present.

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Professor Gerhardt, Rector of the University of Berlin, having come to London for a consultation on March 19th, Sir Andrew Clark took advantage of the opportunity to invite a large number of professional friends to meet him. About three or four hundred attended the reception, to do honour to their German *confrère*.

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Mr. George Field, late Dean of St. Mary's Hospital Medical School, was on the 12th of March presented with a very handsome testimonial, consisting of a chimney hall clock, a very chaste tea and coffee service, and a valuable diamond pendant for Mrs. Field. Mr. Broadbent presented the testimonial, and Mr. Field made an appropriate reply amidst deafening and prolonged cheers.

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On March 21st, Mr. Henry Smith, F.R.C.S., of Kings' College Hospital, was presented with a silver salver, a complete dinner service of silver plate, and an illuminated address. A large number of past and present students—including Surgeon-General Cockburn, Messrs. Teale, Clarke, Wakeley, Fox, Rose, Barron, Drs. Duffin, Macdonald, Curnow, Pritchard, and others—assembled, and Mr. Napper, of Cranley, made the presentation on behalf the Committee in an amusing speech. The following is the inscription on the salver:—"This salver, together with other articles of silver plate, was presented to Henry Smith, F.R.C.S., by his former house surgeons, pupils, and friends, as a mark of esteem and affection, on the occasion of his retirement from the chair of Surgery at Kings' College, and the post of Surgeon to the Hospital, March, 1889."

Sir William Roberts was entertained at dinner by a large number of medical friends on March 13th. Dr. Renaud presided. Professor Morgan and Dr. Cullingworth spoke in glowing terms of the scientific advancement of the guest of the evening, also wishing him every success in his new home in London. About 100 medical men were present. During the evening an address expressing the high appreciation entertained of the services of Sir William Roberts to medical science, and to the profession in Manchester, was numerously signed. After it has been engrossed on vellum, it will be formerly presented to him.

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Dr. Tatham has been appointed Medical Officer of Health for Manchester. There were forty-seven applications. Dr. Tatham's experience in Salford has eminently fitted him for the larger sphere of duty in Manchester. Dr. Tatham's first appearance was as House Surgeon to the Ancoats Dispensary. He afterwards held the post of Resident Medical Officer to the Salford Poor-law Union. Dr. Tatham was one of the first to recommend a special course of study for intending candidates for the Public Health Medical Service. He received from the Dublin University, a few years ago, the honorary degree of M.D.

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We have pleasure in directing attention to the merits of what is termed the "British Stylographic Pen," which we are now using, and which we find possesses many advantages over pens of this construction. It is well made, and consequently durable. It is light in the hand, and being simple of construction, it cannot easily get out of order. Many of these pens are very high priced, and some of them are very disappointing, owing to leakage, etc. The British stylographic pen is manufactured at a price to place it within the reach of all.

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The following prizes are offered by the *Société de Psychologigue*, of Paris, in 1890. The Anbance prize, of 2,400 francs (£96), for the best essay on the difficulties of differential diagnosis of general paralyses, with the various forms of insanity; the Belhommne prize of 1,000 francs (£40), for the best essay on the mental condition and delirium in idiots and imbeciles; the Esquirol prize of 200 francs (£8), with the works of Esquirol, for the best manuscript essay on some point of mental pathology. Essays, whether printed or manuscript, must be sent before December 31st, 1889, to the secretary of the society, M. Ant. Ritti, Medecin de la Maison Nationale de Charenton.

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The first triennial prize of two hundred and fifty dollars, under the deed of trust of Mrs. Wm. F. Jenks, has been awarded by the Prize Committee of the College of Physicians of Philadelphia, to John Strahan, M.D., M.Ch., M.A.O. (Royal University, Ireland), 247, North Queen-street, Belfast, Ireland, for the best essay on "The Diagnosis and Treatment of Extrauterine Pregnancy." The writers of the unsuccessful essays can have them returned to any address they may name, by sending it and the motto, which distinguished the essay, to the chairman of the Prize Committee, Elwood Wilson, M.D., College of Physicians, Philidelphia. The trustees have made arrangements with Messrs P. Blakiston, Son and Co., 1012, Walnut-street, Philadelphia, for the publication of the successful essay, which will also appear in the transactions of the College for 1890.

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The following is the quotation for which one of our correspondents asks. It is taken from Jowett's work on "Canine Madness." "It is painful to speak of one's self, but I may perhaps here be permitted to say that I have been bitten four times by dogs decidedly rabid. At each time I freely applied the caustic to the wound. I am living to the present day. I have operated on more than four hundred persons, all bitten by dogs, respecting the nature of whose disease there could be no question. I have not lost a patient. I am bound to add that one of the surgeons of St. George's Hospital told me that since his connection with that establishment he and his colleagues had operated on more than as many thousands bitten by dogs (he could not say that all of them were rabid), and he was not aware that one of them had been lost."

The *Journal de Médicine de Paris* tells us that in the Department of the Seine there have been nineteen deaths from rabies since 1888, though the mean mortality in former years never exceeded six. Rabies is on the increase in France; whilst at the same time terror drives the ignorant to Paris. The following story is but too true: In the *Petit Journal*, March 19th, 1889, it is recorded that two persons died at Jarville of hydrophobia. A regular panic ensued, and out of a town of 1775 inhabitants, about forty went to Paris to the Institute for inoculation. The facts as gathered from a medical man at Jarville are as follows: "There has been no case of hydrophobia at Jarville; but Dame Boulin had a dog. Becoming ill she gave the dog away. On the 10th of March Dame Boulin died, after hæmorrhage, caused by cancer of the stomach. The dog had many owners, and one of them died of delirium tremens. So we have here the old story of the black crows. The owners of the dog, and those who had frequented the *café* of Madame Boulin, terrified by the report about hydrophobia, have rushed up to Paris, and will in due time swell the statistics." These are the incontestable facts, and they have a ludicrous as well as a tragic side. Another death is reported—Ernest Ray, of Oissel, bitten December 13th, treated from the 17th to the 6th of January; died of hydrophobia February 25th.

Surgical Aids and Appliances.

119.—ELECTRIC PHOTOPHORE.

According to Dr. G. Beck's *Illustrirte Monatsschrift der Aerztlichen Polytechnik*, Series V, p. 202, Dr. Trouvé, of Paris, has succeeded in constructing an excellent illuminating apparatus, based on the principle of Swan's lamp, the incandescent light being generated *in vacuo*. The apparatus (fig. 1) consists of a short tube, the posterior end of which is

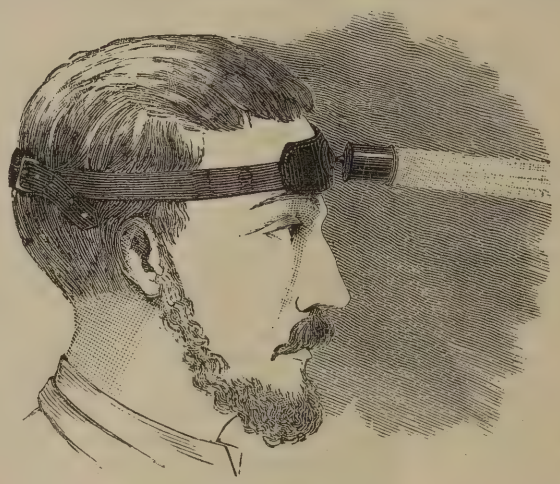

FIG. 1.

closed by a concave mirror, while in the anterior one a convex lens is placed. In the centre of the tube a Swan's glass globe is fixed, which is brought into communication with a bichromate of potash battery, by means of conducting wires entering the tube through its upper walls. The light thrown by the photophore is very intense, and remains equally brilliant for several hours after charging the cells. The lens is movable, and hence allows the illumination field to increase or decrease according to the practitioner's desire. The apparatus, furnished with a ball joint, may be fixed either on the practitioner's forehead (by means of an appropriate supporting strap), or on a metallic staff affixed to the apparatus case. The current is supplied by a large-sized battery, consisting of four zinc and carbon cells, with a solution of bichromate of potash (666 parts) in sulphuric acid (2,000) and water (5,330). The price of the photophore is 60 francs; that of the battery, 130 francs. In an editorial note, *l.c.*, p. 203, Dr. Beck adds that the apparatus works most satisfactorily, and is eminently suitable for ophthalmological purposes, provided that the light is kept within very moderate bounds, and the lamp is placed at the side of the patient. Since the bichromate battery proves to be rather expensive, Dr. Beck advises to employ Bunsen's cells, which are by far cheaper.

120.—ELECTRIC BATTERY FOR DENTISTS.

In Dr. Beck's *Revue Illustrée de Polytechnique Médicale*, November 30th, 1888, p. 353, Professor L. Serres, of the Paris Odontological School, highly recommends a bichromate of potash battery (fig. 2), constructed for odontological purposes by Dr. Trouvé. It is composed

of six cells, arranged in an ebonite box, with a travelling (up and down) board carrying the elements, which can be immersed at will into the bichromate solution by lowering, or put out of work by raising, the

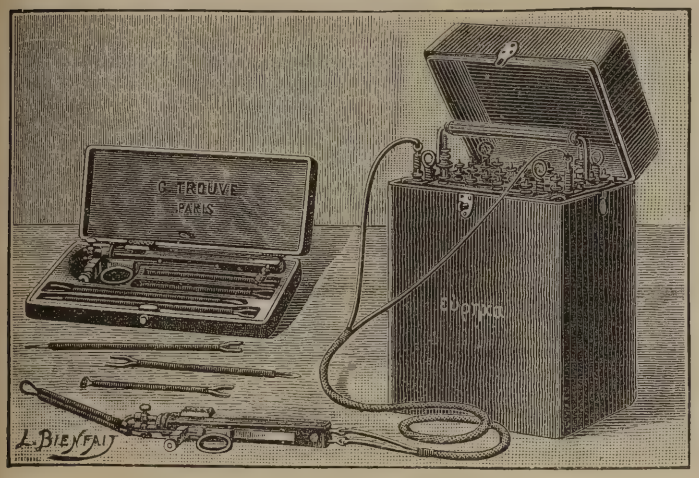

FIG. 2.

plank. The battery, fully charged, weighs about three kilogrammes; it is very portable and handy. It has an electro-motive power of 1.9 volt, and an internal resistance of from 0.09 to 0.10 ohm per cell. The price of the appliance is fifty francs; that of each fresh charge, about forty centimes.

121.—TROUVÉ'S ELECTRIC AUXANOSCOPE.

Dr. Trouve, of Paris (14, Rue Vivienne), describes (Dr. G. Beck's *Revue Illustrée de Polytechnique Médicale*, 1888, No. 3, p. 85), under the name of an "auxanoscope," an ingenious apparatus of his invention, which is destined for demonstrating (projecting on a screen) in considerably magnified dimensions (about twenty times) any opaque objects, including pictures, photos., etc., without using any transparent *clichés;* in fact, the apparatus may be justly named "a magic lantern for opaque bodies." As the editors of the *Revue* expect, the auxanoscope will prove invaluable, not only in the hands of teachers, as an excellent means for demonstrating minerals, insects (alive or dead), anatomic specimens, etc., but also in those of practitioners, as a powerful auxiliary in studying cutaneous and surgical diseases, etc. The apparatus are of two kinds, single and double. Their construction is exceedingly simple in both of the cases. A single auxanoscope (fig. 3) consists of

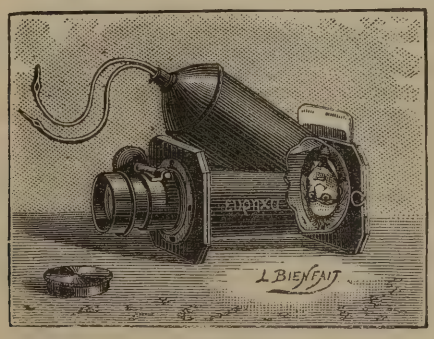

FIG. 3.

two hollow cylinders joined at a certain angle, one of which carries about its upper extremity an incandescent electric lamp, with several parabolic mirrors (for concentration of the light), while the other contains an ordinary photographic lens. The object which is to be projected on the screen is placed at the junction-angle. A double auxanoscope, which may be used for projecting both opaque and transparent objects, differs from the single one mainly in its being furnished with two cylinders containing the lamps. The battery employed for the apparatus is very portable. It has an electro-motive force of 1.9 volts, and an internal resistance of from 0.09 to 0.10 ohm per cell. Each fresh charge (sufficient for a three hours' work) costs only twenty-five centimes. The price of the apparatus (without the battery) is from 50 to 60 francs.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the Editor, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16*th of the month.*

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

THE TREATMENT OF ACUTE DISORDERS OF THE RESPIRATORY ORGANS.

To the Editor of The Provincial Medical Journal.

Sir,—The great importance of this subject must be my excuse for criticising Mr. Burman's communication in this month's issue. I read a paper in the Therapeutic Section at the Glasgow Meeting of the British Medical Association, advocating modes of treatment totally at variance with those given by Mr. Burman. I also published a letter in your columns on February 1st, 1887, advocating the use of iron in its strongest and most astringent forms in bronchitis; and I am of the same opinion now, that iron is our sheet anchor in dangerous forms of bronchitis, pneumonia, and broncho-pneumonia, when collapse tends to set in from suspended respiration, due to abundant secretion, and consequently imperfect aëration of the blood.

If Mr. Burman will give more iron and less ammonia, he will, I am confident, have less to say about "contemplating the appearance of capillary bronchitis with the gloomiest forebodings." Let him give drop doses, or even two-drop doses of the strong perchloride every quarter of an hour, in his next case of that common complaint in a child, and I am sure he will be satisfied with the result.

Bronchitis being an inflammatory affection, the treatment at the outset should be directed to procuring resolution, firstly by depressing the heart's action with ipecacuanha, and secondly by giving agents which disperse stagnating blood. If I catch a case in its initial stage, I give five minims of liq. am. acet. conc. and five of vin. ipecac. every hour or two hours. In this way an attack may very often be cut short in eight or ten hours. If, however, there be any sign of debility or asthenia, I always add drop doses of iron. Indeed, in a delicate child, with acute bronchitis, I would consider the administration of the acetate of ammonia risky, as tending to induce a defibrinated state of blood, and to increase the usual danger of capillary bronchitis supervening. I often, for this reason, give spirits of nitrous ether as the diaphoretic. Again, in croup I have had great success with nitrous ether, iron, and ipecacuanha. Thus recipe: sp. etheris nitrosi ʒii., vin ipecac. ʒiss., liq. ferri perchlor. fort ♏xv., syrupi ad ʒiss. M. One teaspoonful every half hour, hour, or two hours.

In bronchitis, the carbonate of ammonia should, I think, never be given in the acute stage, because of its great liquefying properties. The acetate is preferable because it is compatible with the perchloride of iron in the event of all liquefying remedies having to be discontinued. My prescriptions show combinations of ipecacuanha, liquor ammoniæ acetatis and iron perchloride. The only sedative I consider admissible is chloral for urgent cough, in half grain doses. Even that is best done without. If the case should become capillary, I give iron only and some stimulant. By this method I have not lost one case out of forty or fifty. In all cases of bronchitis in children, I have seen great benefit derived from the vigorous application of St. John Long's liniment to the chest, three times a day. But, as I said in the opening paragraph of this epistle, iron is our sheet anchor in dangerous cases of bronchitis, be the patient young or old.—I am, Sir, your obedient servant,

March 12th, 1889. C. R. ILLINGWORTH, M.D.

THE PROPOSED HOSPITAL TAX AND THE EVIL IT WILL WORK.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—An effort is being made to induce, but in reality compel, the wage-earning classes to pay 1d. per week or 4s. 4d. a year, to the medical charities. Hospital managers seem so enamoured with the continental plans of municipal or State support that they are striving hard to have a modification of it introduced here.

A Royal Commission is called for, but one fears that those who call for it have no intention of trying to check the gross abuses, but only mean to obtain more funds to carry them on. At present there is a breakdown of our hospital management, and a strong effort is being made to fix their support on the shoulders of the wage-earners. The old plan of annual subscriptions is dying out, for hospital committees say the amount thus obtained is less each year. Next, the Hospital Sunday Fund is not answering the great expectations of its founders. Again, the wage-earner have been appealed to, and the Hospital Saturday Fund has not turned out as well as was expected. The plan of selling drugs to patients at the charities has been tried, and with as poor a result. Lastly, the London hospital committees have hit upon he above plan. That the wage-earning classes look upon this 1d. a week payment as compulsory is evident. As it is, I know of two men who were told they might leave they employ if they did not pay 1d. each week. Some return is also expected, for at the London meeting a working man asked what he was to receive for his 4s. 4d. a year, as at present he had a club doctor for 3s. 6d. Not only will this tax allow the wage-earner to demand aid as his right, but he will have the power to refuse certain treatment, as a private patient now has. He will also demand a voice in the control of the hospital, taxation and representation going together.

I wish to further point out that if this tax is established it will put an end to our Hospital Sunday collections, for few clergymen will care to quote Scripture when appealing for money. One might as well expect income-tax and poor rate collectors to do so. It will be equally absurd to refer to hospitals so supported as the outcome of Christianity. Even now it is noticed how, when an appeal is made, the term "medical charity" is used, but that when urging wage-earners to give we invariably speak of "the hospital." It will, moreover, be natural for those who give 4s. 4d. a year, to object to be termed "charity cases."

At present the attempt to pass off our hospitals as medical charities is simply absurd. Merchants for the most part support them, because they find this is the cheapest plan of obtaining medical relief for their *employes*, knowing full well that nothing throws an office so much out of order as the absence of hands. It has been shown that this country loses about £20,000,000 each year, through sickness alone, "National health is national wealth." Wage-earners say it is the duty of their employers to provide medical aid for them, as their wages are not sufficient to allow them to pay for this themselves, and as their masters find the hospitals a good way of obtaining cheap medicine, they support it. Small trades-people say the hospital is a grand institution, because they can get a doctor and medicine for nothing, and so escape payment, while they defraud the genuine poor. Lastly, medical practitioners find they can improve their financial and social conditions by being on a hospital staff, and hence their struggles and unseemly touting to secure a place. Out of all these eminently selfish actions the present abuses have sprung and hence it is that our hospital committees will not—some say dare not—allow a genuine investigation to take place into the social circumstances of their patients.

No one wishes our medical charities to cease their good work; but would like to know why committees want to change them into financial undertakings. If they charge a certain sum, and make wage-earners pay, are they not following the plan of sick clubs? Are the latter charities? Is it not rather a parody on our present hospital management, after they had done all in their power to smash up the provident dispensary movement, to find them now trying to follow out the rules of the latter by making people pay to a charity when well, so that they may obtain treatment while ill. Let our workhouse infirmaries and poor-law dispensaries look after the very poor, and our medical charities take charge of the comparatively poor, but one cannot see why our hospitals should ever forget the aims of their founders, and take it on themselves to make provisions for well-to-do people. The latter plan is absurd, and can only work harm. Year by year the hospitals are drawing more people, and seemingly pointing out that there is a growing mass of humanity unable to provide medical aid for themselves. This "grows by what it feeds on." At the same time, wealth is accumulating, wages are going up, hours of labour are shorter, breadstuffs are cheaper, while each person on an average spends £3 6s. 8d. per annum, or 1s. 4d. per week, on alcohol. Yet, medical fees are becoming less, while many doctors give their services and medicines to societies for 3s. 6d. per annum per member.

Hospital managers have made the mistake of confounding quantity and quality. It is the quality, not the quantity, of work done at a medical charity which gains support. Acting on their wrong idea, we have the "record" broken each year, always a higher number being quoted, so as to show the "increased usefulness of the institution"! The implicit credulity of some may be great, and sickly sentimentality will have its day; but people are now asking, seeing the improved condition of the working classes, "why this great increase of numbers, and why this treatment of the well-to-do by funds collected for purely charitable purposes?" In a few years the "record-breaker" hospital must be a thing of the past, for its own inconsistencies must kill it. Any system of charitable aid requires careful watching, else more than good follows. I have elsewhere expressed a great regret that the only way medical practitioners can advertise is through hospital appointments, and that little reform may be expected from them until they suffer in pocket. Our hospital authorities will not even attempt to define the question—"For whose use are our medical charities?" At present they are bidding for support, and with such strange statistics that even now many refuse to give support.

I would propose that our hospitals continue to be medical charities in the true sense, and then the many clergymen who at present dislike to preach Hospital Sunday sermons will help. A series of rules such as the following might be drawn up:—

1. That our medical charities be for the benefit of the sick poor and accident cases, and that our hospital committees meet and fix a "wage limit," thus deciding what class are eligible for relief.

2. That the Charity Organisation Society be supplied with a list of all those who apply, and that their inspectors inquire into the social circumstances of the applicants, as is now done in Manchester.

3. That all applicants be given treatment on the first occasion, but that second treatment be refused if the inspector has not "stamped" the hospital card.

4. That the plan of charging for drugs— thus puttting a premium on the quantity consumed—cease, and that all other charges, such as "entrance" or priority fees," be done away with. Thus patients would not be led to think that they "pay for what they get."

5. That the system of giving "tickets of reccommendation" to subscribers be abolished. These are frequently given by the employer to his servants, or to small shopkeepers. This plan would further prevent committees from giving offence to any subscriber because his ticket was refused treatment. Further, it would prevent those wage earners who gives to Hospital Saturday Fund from thinking they also can purchase treatment by their gifts. The Birmingham tickets of admission to the charities are sold at six for £1.

6. No salaries should be paid to any of the medical staff, nor should chaplains, auditors, or secretaries claim wages. At our eighteen hospitals £3,934 are paid to doctors, while the total wages amounts to £13,341.

7. The medical staffs of the hospitals should be greatly enlarged. This would prevent the doctors from running new hospitals "for the benefit of suffering humanity." Each hospital should have a full staff. At present there are no special departments, as for the eye, throat, ear, skin, and teeth at many of the general hospitals. If the staffs cannot be enlarged, then the hospitals might be opened in the evening (as is now done in London), a second staff being appointed.

8. The term of hospital service of a medical practitioner should be limited to five years. He might, after this, be drafted into another department. No practitioner should be allowed to hold more than one appointment. To illustrate, at our twenty Liverpool medical charities there are thirty-nine appointments for consultants filled by thirty-six men. There are ninty-one appointments for visiting doctors, these being filled by eighty-six men, some holding three separate posts. Out of a total of our 500 doctors in Liverpool, only 120 hold appointments at the hospitals. It is wonderful how some medical men object to any extension of the above proposal until a son is qualified as a medical man. As it now is, the public suffer, dissatisfaction exists, and new hospitals spring up.

9. The appointment of medical practitioners should be by open examination, as in the Army and Navy. To show the absurdity of the present plan, one doctor has been appointed because his future father-in-law worked him in. Almost every doctor who has a son about to become a medical practitioner looks upon him as the "heir apparent" to some hospital appointment. In Paris appointments go by examination. Here social influences and political opinions outweigh professional worth.

10. Workhouse and city fever hospitals should be open for teaching purposes, while their medical staffs should be enlarged.

11. If "pay wards" exist the paying patients should have the power to be treated by his own medical adviser, and also, if wished for, his nurse. This plan would do away with much friction, and would abolish, what is known as the "patient trap" scheme.

12. A public service should be organised, so that wage earners of 20s. to 35s. weekly wage might insure against medical treatment, either after the provident dispensary system or by the immediate payment of small fees, say 2s. the first and 1s. 6d. for subsequent visits to the doctor's office. Some of the working classes object to a "wage limit," but they do not object to their trades unions fixing the rate of wages or hours of work.

13. The various chemists should be asked to co-operate, and to draw up a tariff of charges—say 5d. for each prescription made up. This would allow all dispensing to be done by the rightful agent—the chemists—and it would prevent medical men from making a profit out of a drug business, or money out of the quantity of medicine swallowed.

14. The charity ambulances should not be used by the well-to-do, but each municipal authority should possess its own.

15. Police surgeons should treat police cases, and not send them to charities. Neither should club doctors get rid of their members by sending them to the hospital for treatment.

If the above rules were faithfully carried out, we should have no call for a Royal Commission, as the present sad condition of affairs is our own making. The diseased state has been recognised by all, and the treatment pointed out. There is no reason why Liverpool should not have one of the finest public medical services in Europe. All the implements are ready, and unanimity is only wanted. At present all the forces at work in our hospitals are destructive of self-help, self-respect, self-support, and self-reliance. Germany has now over 3,473,000 people insured against sickness and accident. A medical practitioner connected with a hospital said to me :—"Formerly hospital patients put on their old clothes, but now they come well dressed, and do not even take the trouble to pull of their kid gloves." We spend now over £8,490,000 per annum on our pauper population. Pauperism and want of thrift is hereditary. Why, then, do our hospital managers encourage it? The mere fact that a man pays one penny per week to a hospital does not prove that he is a fit subject for hospital treatment. Therefore "wage limit" of the subscriber—should the above scheme come in—must even then be settled. Finally, if the tax system is put in force, those practitioners acting on the hospital staffs will require to be salaried, as the continental plan.—Yours, &c.,

ROBERT RENTOUL.

THE COMPULSORY NOTIFICATION OF INFECTIOUS DISEASES.

To the Editor of The Provincial Medical Journal.

Sir,—The statistics in regard to notification which I compiled from the Registrar-General's returns, for the six years 1881-86, were sufficient, I think, to convince any unbiassed mind. But objection was raised that the period taken was not long enough, and that I ought to have differentiated between those zymotic diseases which under the dual system were notifiable, and those which were not. Now I consider any system which professes to lessen the mortality from zymotic diseases, as having failed in its mission, unless it can be shown to have lowered the death-rate from these diseases, as a whole, in the towns under its influence; just as the sailor fails to save his ship, if, in stopping one leak, he disregards others. And as to the period of six years, this was more than half the time during which the system had been at work. Nevertheless, being willing to meet any objection having the least show of reasonableness, I have pursued the investigation so as to obtain the averages for each of the seven principal zymotic diseases in each of the twenty-eight large towns, for the eleven years ending with 1887; and those individual averages I have reduced under the three groups of many original tables, not without considerable labour, owing to the needed adjustment according to population of the several towns, which I have carried out strictly. I beg to give you the results for the whole period and for 1887 separately, dividing the zymotic diseases as follows :—

Notifiable: Small-pox, scarlet fever, Diphtheria, fever.

Non-notifiable: Measles, whooping-cough, diarrhœa.

The towns in Group I., under no system of notification, are London, Brighton, Plymouth, Bristol, Wolverhampton, Birmingham, Liverpool, Leeds, Sheffield, Hull, Cardiff.

The towns in Group II., having been under the single or householder system during nearly the whole period, are Norwich, Nottingham, and Bradford.

The towns in Group III., under the dual system for periods varying in length from three years to the whole of that for which the average death rate is given, are Sunderland, Portsmouth, Halifax, Newcastle, Salford, Manchester, Birkenhead, Leicester, Derby, Bolton, Oldham, Blackburn, Preston, and Huddersfield.

Death rates in the twenty-eight large towns from the seven principal zymotic diseases in the period of eleven years, 1877-1887.

	Small-pox.	Scarlet Fever.	Diphtheria.	Fever.	Measles.	Whooping Cough.	Diarrhœa.
Group I....	0·179	0·544	0·159	0·298	0·578	0·720	0·915
Group II....	0·015	0.544	0·076	0·295	0·439	0·486	1·007
Group III....	0·034	0·561	0·112	0·362	0·639	0·581	1·136

Therefore, from 1877 to 1887 inclusive, the death-rates from notifiable and non-notifiable zymotic diseases were as follows :—

Group I., 3·393;	viz., notifiable, 1·180;	non-notifiable,	2·213
Group II., 2·863;	,, ,, 0·931;	,,	1·932
Group III., 3·425;	,, ,, 1·869;	,,	2·356

This, however, is open to the objection that some of the towns in Group III. were under no system of notification, for by far the greater portion of the period for which the zymotic death-rates is given. I therefore proceed to give the respective death-rates for 1887, concerning which there can be no mistake.

Taking the twenty-eight large towns we have the following death-rates from zymotic diseases :—

	Under no system.	Under single system.	Under dual system.
Small-pox	0·047	—	0·009
Scarlet Fever	0·366	0·288	0·502
Diphtheria	0·184	0·072	0·171
Fever	0·186	0·234	0·307
Measles	0·700	0·607	1·113
Whooping Cough	0·657	0·661	0·454
Diarrhœa	0·951	1·004	1·116
or Group I., 3·092;	viz., notifiable, 0·783;	non-notif.	2·308
Group II., 2·866;	,, ,, 0·594;	,,	2·272
Group III., 3·671;	,, ,, 0·989;	,,	2·683

This reveals the *startling* fact that in the year 1887, notwithstanding the high figures at Sheffield (under no system of notification), owing to the epidemic of small-pox, the towns which were under the dual system lost 206 per million more persons by *notifiable diseases*, than died of the same disease in the towns under no system! And if we could take the whole class of zymotic diseases together, as we properly should, they lost 579 per million more. If extended to the whole of England and Wales, the former number would present an annual slaughter of 6,000 persons, whilst the latter would represent a holocaust of upwards of 17,000! As it was, 1,100 lives were lost which but for the dual system would have been spared, this being the excess of zymotic deaths in the population of two millions under that system. If they had gone down in some big ship, the calamity would have met with a searching enquiry; but they departed noiselessly, leaving no record, except in the returns of the Registrar General. When will the country awake to the fact, that hundreds of lives are annually being sacrificed to a pet theory, which is as far removed from true sanitation as the East is from the West?—I am, Sir, your obedient Servant,

D. BIDDLE.

Gough House, Kingston-on-Thames.
February 22nd, 1889.

THE ROYAL COLLEGE OF SURGEONS AND ITS MEMBERS.

To the Editor of The Provincial Medical Journal.

Sir,—The Council of the Medical Defence Union has decided to support Mr. Lawson Tait in his action against the Council of the Royal College of Surgeons, and the considerations which led to this decision may be of interest to your readers.

The Medical Defence Union is not concerned with the merits of the dispute between the College and its Members; but since Mr. Tait, as a Member and Fellow of the College, has been threatened by the Council with deprivation of his Fellowship and Membership, because in the course of the controversy he has followed what he conscientiously thinks to a be right and proper policy—the Council of the Medical Defence Union considers that it is a fit and proper case to be defended.

The position is simply incredible that Mr. Tait or any other Member of the College should be threatened with deprivation of the privileges of membership because be affixed his name to a document calling a meeting of the Members at the College.—We are, Sir, yours obediently,

LESLIE PHILLIPS, M.D., } *Hon Secs.*
A. G. BATEMAN, M.B., } Med. Def. U.

Medical Defence Union, Birmingham,
March 5th, 1889.

THE PROGRESS OF A YOUNG PRACTITIONER.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—In answer to "Junior's" letter in THE PROVINCIAL MEDICAL JOURNAL for February, I may give him my own experience. I think I am as successful as I could well hope to be. I qualified in 1882, and from that time till the end of 1887 I went about the world prospecting. I had a voyage to India, and acted as *locum tenens* and assistant in a great many parts of England, both in towns and in the country. I thus got a good insight into many kinds of practice, made friends in many parts of the country, and at last found an opening. This was not in a place where I had taken charge, but was recommended to me by a patient. I have been in practice in the place now for about twenty-eight months, and am making at least £300 a year, including a hospital appointment under the Local Government Board of £100 per year, and clubs which bring in about £40. I have spent out of capital £250, and I have, besides, a very small income; but I could have managed on the £250 easily if I had been more economical and businesslike. In the first year I *took* £112. For the first few months I was in lodgings; after that I took a small house and furnished it on the three years' system. For about eighteen months I had my dispensing done by a chemist. It is an expensive way of doing things, but avoids getting a stock of drugs before I knew if I should be successful. I may add that up to the present I have not had a quarrel with any one of the five other practitioners in the town; on the contrary I am good friends with all, and have, I think, done work for every one of them. I am thinking now of going into a larger house, and stabling a horse and gig. I ought to say that I am only of quite average ability, and did not distinguish myself in any way at my hospital except by protracted periods of laziness.

M.R.C.S. Eng., L.R.C.P. Lond.

THE CONSTRUCTION OR MISCONSTRUCTION OF PRESCRIPTIONS.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—The construction or misconstruction of prescriptions is a subject on which I think you might spare a small space in your valuable journal. Last winter, when laid aside through illness, my then assistant showed me a pocket copy of the Pharmacopœia of two London hospitals. On looking through, I invariably found after the magic ℞ the word "Aquam," and for the last few months the same word appears in your journal; in both cases the other ingredients of the prescription were abbreviated, so one could not say what case the writer would use. The writing of a prescription *in extenso* used to be the *pons asinorum* of my fellow students, but for the life of me I could not see why; the rule is simple—viz., after Recipe put all your drugs in the genitive case; your quantities in the accusative. In some cases the best of us will make a mistake, especially if the compilers of our Pharmacopœia go on adding a syllable at each revision to the already long words. In these days of pressure students are apt to copy what they see, and surely if at an examination they wrote "Aquam," they would come to dire grief. It is not "Aquam;" you do not Take water; but "Aquæ," Take of water. Small, is it not? Still might lessen one's average at a push. I do not set up as a Latin scholar, but let us not place any footfall in the way of the already harassed student.—I am, yours truly,

WILLIAM FRASER, B.A., M.B. Dubl.

Ashburton, Devon,
March 17th, 1889.

[☞ We would direct the attention of the writer to a correspondence on this subject in PROV. MED. JOUR., vol. v., p. 336, 382, 383.]

CASE OF LUPUS OF THE FACE.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Last June I published a case of "Lupus" in your journal. I am now pleased to say that there has been no relapse. All the scabs have disappeared; all that is left is redness and thickening of the skin. This, I am afraid, will be permanent. The patient has persevered, and is still using the emulsion in the hopes of having a clear face. If no happier results than the total disappearance of the scabs, swelling, and discharge accrue, even then I think we have in the emulsion, thanks to Mr. Knaggs, an important agent wherewith to aid those who suffer from such a terrible and hideous disease as lupus. I expect in a few days to have an opportunity of trying this emulsion on another lady patient who is coming up from the country to see me, and I hope in a few months to be able to communicate to you another cure of this disease.—I remain, yours faithfully,

EUSTACE J. DE GRUYTHER, L.R.C.P., etc.

Leytonstone,
February 23rd, 1889.

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3. Medical Register (Philadelphia).
4. New York Medical Journal.
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6. New England Medical Monthly.
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13. St. Louis Medical Journal.
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BRITISH:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

DUTCH:—

35. Nederlansch Tijdschrift voor Geneeskunde.

FRENCH:—

36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
42. Annales de Gynæcologie et d'Obstetrique.

GERMAN:—

43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
48. Fortschritt der Medecin.
49. Chemiker Zeitung.

ITALIAN:—

50. Lo Sperimentale.
51. Rivista Internationali di Medicina.

PORTUGUESE:—

52. A Medicina Contemporanea.

RUSSIAN:—

53. Vratch.

SPANISH:—

54. Rivista Clinica de Barcelona.

TURKEY:—

55. Revue Medico-Pharmaceutique Constantinople.

Yours very truly

J. H. Moore

THE

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Our Portrait Gallery.

SIR WILLIAM MOORE, K.C.I.E., ETC.

SURGEON-GENERAL SIR WILLIAM MOORE, K.C.I.E., Q.H.P., M.R.C.S. Lond., L.A.C., L.R.C.P. Edin., received his education principally at the Queen's College, Birmingham, in the days when Sands Cox, and Birt Davies ruled that institution. On qualifying, in 1849, he was appointed Resident Surgeon at the Queen's Hospital, Birmingham, which post he filled for three years, leaving in 1852 to enter the service of the Hon. East India Company. He only retired from the Indian service last year, and we quote the following extracts from the *Times of India*, of April 2, 1888:

"Surgeon-General Moore, C.I.E., who leaves India by the mail to-day, entered the service as an assistant surgeon (as junior officers were then designated) in 1852. He is therefore now on his retirement in his thirty-sixth year of service, and is the senior medical officer of the Indian service now in this country. Coming to India in 1852 with an established reputation (having been awarded the Provincial Medical and Surgical Association prize of twenty guineas for the best series of medical cases published in the Association journal), he, instead of being retained in Bombay, was detailed for duty with the Rajpootana Field Force, where he served with the Artillery, with the Native Infantry, and was eventually attached to the First Light Cavalry Lancers. While serving in Rajpootana, he became acquainted with the late Sir Henry Lawrence, and also with Sir Henry's philanthropic views regarding hill schools for the children of European soldiers, views which years afterwards he furthered so well as honorary secretary to the Mount Aboo Lawrence Asylum, that it was recorded in 1877: 'It is chiefly owing to the kindly interest Dr. Moore has always taken in the school, to his unwearied exertions for its advancement, and to the care and judgment with which he managed its affairs, that the school is at the present time in so satisfactory a condition.'

"In 1877 Dr. Moore was selected for the post of Deputy Surgeon-General of the Presidency and Aden Division of the Army, which office he filled for the full term of five years. In 1884 he attained the highest post in his department, being made Surgeon-General at Bombay. Throughout his service he has been devoted to the extension of sanitation and the progress of medical science in India. His "Health in the Tropics, or Sanitary Art applied to Europeans in India," published so far back as 1862, may be regarded as the *avant-courier* of similar works. His later separate publications are "Health Resorts for Tropical Invalids in India, at Home, and Abroad;" a series of papers published under the title, "The other side of the Opium Question;" a second edition of a "Manual of Diseases of India;" and in December last a fifth edition of his "Manual of Family Medicine and Hygiene for India." Of numerous contributions to periodicals which have attracted attention may be mentioned articles in the *Calcutta Review*, being a "Review of Sanitary Progress in India," in which the immense improvements which had taken place up to date are recorded, and the requirements mentioned; and "The Eurasian Future," in which the increasing importance of the Eurasian population of India is urged. Surgeon-General Moore's professional position was to some extent acknowledged when his name appeared in the list of Honorary Surgeons to the Viceroy of India, and again in 1882, when the C.I.E. was conferred upon him."

On retirement from the service last year Surgeon-General Moore received the higher distinction of K.C.I.E., and was also nominated Honorary Physician to the Queen. Before leaving India the members of the medical service entertained him at dinner, and subscribed to a "Moore Memorial Fund," part of the sum realised being devoted for a portrait to be sent to Bombay, which is now being painted by the well-known artist, Mrs. Way, 46, Bedford Gardens; and the other moiety to form a scholarship or scholarships for the most deserving members of the subordinate Indian Medical Service.

Original Communications.

WHAT TO DO WITH THE DEAD.

By Fredk. A. A. Smith, M.D.

In writing this article, I am perfectly aware that much of it has appeared before in print; but as I find that many, very many, people are still quite ignorant of the facts here given, I deem it not out of place to go over some of the old ground; and as I intend giving some new ideas upon the subject, I hope the article, as a whole, may not prove uninteresting or uninstructive.

The question of what to do with the dead has more or less exercised the mind of man from time immemorial. At the outset of social life, it is true man thinks no more of his dead than do the majority of animals. He abandons them to the beasts, or birds of the air, and this form is seen in societies fairly civilised. Cicero says that in Hyrcania dogs were kept specially for eating the dead. The Bactrianæ also had their scavenger dogs. In countries where animal food is scarce, cannibalism is found to exist in some form or another. The Hindoos throw their dead into the Ganges, where they are devoured by fishes. The Bombay Parsees expose their dead in the silent towers. In some countries the dead are exposed on planks upon the trees; others bury them either in grottoes or tombs, or in the ground; others cremate—and of all funereal customs, this seems to be the most luxurious and the most coveted. In ancient Mexico that was a privilege reserved only to men of distinction. All these are simply different ways of getting rid of dead bodies. Cremation was also practised in North America. Among the yellow races, the abandonment of their dead was followed by cremation. In India it is common. We know also that the ancient Germans burned their dead, and pre-historic archæology teaches us that our ancestors in the stone age sometimes buried and sometimes burned their dead. The ancient Greeks and Romans also practised cremation; and among the Grecians it must have been held as something of an honour, for they refused the rite to suicides and other. As countries such as England become more populous, the solution of this question presents greater difficulties every year, and the time must come when radical changes will have to be made; for by our present system of burial we are yearly adding to our stock of dead bodies, which, in every stage of decomposition and horrible putridity, are poisoning the air and the water of our streams, and are the means of periodically starting fresh outbreaks of all kinds of deadly fever. These ills are naturally first experienced in London, whose population is said to double itself in fifty years, and from this statement, as regards this country, some idea may be gathered of our rapidly-increasing population. It has been proved by actual experiments that the air in and around graveyards teems with noxious gases and myriads of micro-organisms, ready at all times to attack the living with numberless diseases. The Right Hon. Sir Lyon Playfair, writing in 1885, said: "In most of our churchyards the dead are harming the living by destroying the soil, fouling the air, contaminating water-springs, and spreading the seeds of diseases. I have officially inspected many churchyards, and made reports on their state, which, even to re-read, make one shudder."

We will first inquire what becomes of a dead body buried in the earth. It is commonly understood that when a dead body is placed in the ground it remains there, and becomes part and parcel of it. Nothing is more fallacious. It matters not how you dispose of your dead, whether by burial in earth, by fire burial, the Feuerbestattung of the Germans, by exposure to air, by burial in quicklime, by solution in acids, the result is always the same—viz., the body is sooner or later resolved into its component elements, a very small proportion remaining in the earth as lime, phosphorus, iron, sulphur, magnesia, etc., which gradually become dissolved, and find their way to the water-courses. The gases, such as carbonic acid and oxide, ammonia, and others, are again decomposed by plants, and serve to nourish them. So you will by this observe how beautiful are the ways of nature, who, when allowed to have her own way unfettered—and mind you, her ways are the ways of God—allows of no waste; but as soon as life departs from a body, its elements are immediately utilised to nourish and sustain other living bodies in an endless cycle. The problem, then, to be solved is: given a dead body, to resolve it as quickly as possible into its component elements, with the least possible harm to the living. This is best done by a properly-constructed furnace, whereby the body is resolved into gases, which, mixing with the surrounding atmosphere, are immediately absorbed by plants, the two or three pounds of ashes remaining being perfectly white, inodorous, and harmless. That this solution of the problem is the proper one no thinking person, who has a due consideration for the living, will doubt, especially when the fate of bodies buried in the earth is properly investigated. Of course, I allude here to populous countries, such as England. One body more or less buried in the wilds of America, would not materially affect the health of its isolated inhabitants. I am willing to admit that many of the present objections are done away with by following the earth-to-earth system, as advocated by Mr. Seymore Haden, F.R.C.S. By this system bodies are buried in sandy, porous earth, in coffins made of the most perishable material, and the bodies are supposed to be resolved into their gases in about six years. But to follow out this plan properly, and allow each body to occupy one grave, a much larger amount of agricultural area would be required than this country could afford to lose. It has been said that one large deer forest and run, at present perfectly useless as regards supplying the country with food, would suffice to bury many millions of bodies. I grant this; but in the first place, an enormous sum would have to be paid to the proprietor for his land; and secondly, it would be practically impossible to transport bodies from all parts of the country to a national cemetery such as this would be—so that I think we may at once say that whatever is to be done with our dead will have to be done locally, each town and village disposing of its own. And again, the *great danger fraught to the living by germs* would still exist, as I shall presently endeavour to show. To return to our buried bodies, I shall not do more than give one or two examples, as the subject is too nauseating.

Dr. Cameron writes that in 1874 attention seems to have been called to the state of the parochial burying ground of St. Cuthbert's, Edinburgh, by the fact that a furnace had been built, in which the *débris* of coffins, dug up in the course of excavations of new graves, were consumed during the night, to the scandal and annoyance of the neighbourhood. Proceedings were ultimately taken under the Public Healths Act, and the evidence showed that in fifteen years 10,800 bodies had been buried in an acre and four-tenths of ground. The custom was to open each grave every

seven years, and what remained was burnt, to make room for fresh interments. The only apology that was attempted was that the same custom was followed in other churchyards, and I know that such is the general rule in England. It is also very common to dig huge pits, large enough to hold hundreds of coffins, which are laid in layers as they arrive, and practically left uncovered till they are filled, thus poisoning the air and spreading disease.

It not unfrequently happened that a very noxious drainage, from the piles of dead, accumulated in the bottoms of these common graves to the great detriment of the neighbourhood; and the writer of an article in *Land and Water* some years ago, said that in talking to the man in charge of a certain metropolitan cemetery, he is stated to have said, "You should go in there of a night and see them burning the bones and coffins." An eye-witness tells me that when the church at Hucknall Torkard, near Nottingham, where Lord Byron is buried, was enlarged in October, 1887, in digging out the fresh foundations piles of human remains were exhumed five feet high, and he saw a coffin plate bearing an inscription only ten years old: and a lady recognised the skull of her husband, who had only been buried eight years. To my mind this desecration of graves is simply dreadful, occurring as it does in a civilised country like England. I wonder how many would care to be buried could they only once see a section of a modern burial-ground with all its attendant horrors. You will see that these repulsive practices not only exist in connection with the burial of the poor, but that the rich also are not allowed to rest in peace.

It may surprise some to know that, to stop the possibility of the body bursting before it is buried, the custom among undertakers is to plunge a knife into the abdomen of the dead, just before screwing down the lid of the coffin. The gases generated after death are so powerful that they burst open the strongest coffins, even the leaden ones, and the acrid fluids, by setting up galvanic action between the solder and lead, eat holes into it and allow the putrid contents to ooze out into the vaults, and, filtering through their walls, poison not only the water but the neighbouring atmosphere.

It is not generally known that to enable our impoverished soil to bring forth yearly crops we import bones—many of them from the mummy pits of Egypt,—for which we pay nearly a million pounds sterling per annum. There is no doubt but that a very large amount of human bones, annually dug up in this country, are really sold and used for manure—the real truth being that few are safe from disturbance even in the grave. In the last annual report of the Metropolitan Public Gardens Association an analysis of 443 burial grounds is given; 116 have entirely disappeared, their sites being occupied by railways, docks, streets, etc.; 38 are turned into gardens, play-grounds for schools, stables, etc. How many thousands of tons of bones and other human remains were carted away? None can tell. I read only the other day that the Midland Railway Company were about to demolish St. Pancras Churchyard for extension purposes. This means the carting away of no end of human remains to be used as manure. I have given enough, I think, to show that as regards this country, burials are very bad indeed.

Another word in reference to the danger of earth burial in populous countries. Professor Darwin proved that the surface of the earth has passed through the intestines of worms, so that anyone dying, say from typhoid fever, and buried in the earth, would in time be brought back again to the surface, and the germs of the disease set free to poison the living. For it has been proved that the germs of typhoid can not only live, but actually thrive and multiply in damp earth. M. Pasteur has proved that the *Bacillus anthracis*, the germ of splenic fever or anthrax, also lives and thrives in the earth; and some years after burying a cow dead of this fever the soil over the grave poisoned some guinea pigs placed with it. In 1883 Dr. Friere, of Rio de Janeiro, in Brazil, found out the same as regards the *Cryptococcus zanthogenicus*, the germ of yellow fever, and Dr. Tomassi Crudelli the same as regards the germs of malarial fever. The same also has been proved as regards cholera by Professor Koch and others.

Tuberculous disease and even tetanus are due to bacteriæ which flourish in the soil. Also scarlet fever, typhus, small-pox, diphtheria, and others. All these germs can thrive in earth and live for a very long time, and are always a source of great danger to the living. I am informed that a plot of ground exists to this day in Bristol, railed in, which cannot be disturbed for fear of re-starting the plague, as people were buried there who died of that disease; and another place near the market, where people who died of cholera were buried.

The total number of deaths in 1884 was 530,828, of which 84,196, or 16 per cent., were due to zymotic diseases. The number in 1885 was 522,750, of which 68,972, or 13.3 per cent., were due to zymotic diseases.

Zymotic diseases include small-pox, measles, scarlet fever, diphtheria, whooping-cough, typhus, enteric, and simple fevers, diarrhœa, dysentery, and cholera. These are all preventable by proper hygienic means. I may here ask how many of our periodical outbreaks of different fevers are directly due to the dead in our midst? I cannot say, but fancy they all are. It is well understood that the only way to prevent contagious diseases of animals from spreading is to kill them, and to burn their bodies before burial. Why, then, should one rule be applied to animals and another to us, seeing that the dangers are exactly the same? There is a law in Lisbon making it compulsory to cremate all dying of infectious diseases, and I think the same should be done throughout the civilised world. It appears to be mostly forgotten by the rising generation, or perhaps was never known by them, that the state of our burial-grounds became so bad some thirty odd years ago that laws were passed prohibiting intra-mural interments, but this only puts off the evil day. Extra-mural cemeteries of to-day will be intra-mural in a few years' time. By intra-mural, I mean within the precincts of a town.

Various objections have been raised against cremation. As regards religious scruples, nothing is to be found in the Christian Scriptures enjoining burial or prohibiting cremation, and St. Paul, in his Epistle to the Corinthians, chap. xiii., verse 3, says:—"And though I bestow all my goods to feed the poor, and though I give my body to be burned, and have not charity, it profiteth me nothing," clearly showing that he looked upon cremation as a meritorious act in itself. It appears to have been abandoned by the early Christians, because burials could be conducted in secret, and so they could bury their dead with their own religious rites; and also because they, being ignorant of science, really believed that the buried body remains in the earth till called upon to rise again at the last day; and also, no doubt, because our Saviour's body was placed in a sepulchre, but it does not appear that He was really buried in the earth as we are at present, but more after the fashion of the early Christian in the catacombs. No intelligent

faith can suppose that any Christian doctrine can be affected by the manner of burial, and the martyrs who were burned, or eaten up by wild beasts in the arena, certainly died fully convinced of their salvation hereafter. Indeed, cremation gives truth and reality to the grand and solemn words, "ashes to ashes, dust to dust." Some fancy that, should cremation become general, the balance of nature would be upset, as no ammonia would escape if bodies were completely consumed. This is true, but plants do not absorb ammonia as such, any more than they absorb the carbonic acid, etc., as such, but they have the power of splitting up these different gases, and taking just what they require from them, and the elements of ammonia are always to be found, so I do not for a moment think the least difference would be made, *except that the living would be healthier.* In India, where so many are cremated and eaten up by fishes, and wild beasts, the balance of nature is not upset, but plants flourish most luxuriantly. The same elements are in the world now as always were, augmented, no doubt, by the daily deposits of meteorites and meteoric dust. They simply change their form: to-day, a gas; to-morrow, a plant; then an animal; and so on *ad infinitum.* It has also been said that should cremation become general, no pathological specimens would be found for scientific study; but, of course, specimens could always be obtained as at present. One gentleman I know deplores the idea, because had cremation always been practised, no fossil men would now be found, and thus again science would suffer. But fossil men are no longer required; instead, we have our sculptors and painters. Again, if the bodies of our dead are committed to public furnaces for cremation, it is said that Christianity would suffer no less than public morality and public happiness. I cannot for the life of me see why. As people become more educated, they will learn for themselves that, whether they like it or not, their dead must be burnt up eventually, and they only have to choose between a rapid and harmless burning up, or the more slow method, with horrid putrescence in the grave. Personally, I feel that to be sure of escaping the horrors of the grave, by being properly cremated after death, would make me feel very much happier in this life.

No doubt, pure sentiment is a very great factor to deal with in this question. The bare idea of being burnt up by fire seems, at first sight, to many, very dreadful; but it is only so at first sight, I should say, and a little calm reflection readily dissipates all the horrors. I confess I am very much astonished at the number of ladies who appear quite eager for this simple way of escaping from the horrors of the grave. Burying bodies seems, on the other hand, very dreadful to the mind of a Hindoo, and, as some one has very justly remarked, it becomes a question of purification *versus* putrefaction. Again, it has been said, that should cremation become general, great facilities would be given to poisoners; but I do not think so, especially as it is the rule that all bodies, before cremation, are opened, and the real cause of death certified by competent persons. In my opinion, everybody should be opened after death, and the true cause, if possible, certified. Not as a friend says, "to please the doctors," for, as a matter of fact, doctors as a rule would very much prefer to leave *post-mortems* alone, only knowing too well their disagreeable nature. But as a matter of public duty, this would be the best and surest way to put a stop to secret poisoning, and the chances of detection would be far greater when the bodies were opened fresh, than when exhumed and in a state of putrefactive fermentation. But many people strongly object to have *post-mortem* examinations held. I hardly know why, seeing that most of the crowned heads of Europe are invariably subjected to this process, and the rule is that the mass *will* follow the fashion.

When deaths from old age and natural decay, all zymotic or contagious diseases, acute and chronic diseases of the lungs, or other local organs, cancer, diabetes, rheumatic affections, childbirth, besides the five per cent. of unknown cases determined by the coroner are counted, a very narrow margin is left for doubtful examples. In fact, circumspection is necessary only in acute dysentery and diarrhœa, some affections of the brain, and in infantile mortality, especially as regards illegitimate children.

At present our burials are so lax, that, as was shown by Dr. Cameron in Parliament, over 30,000 persons die every year in Great Britain without any form of death certificate, and without having been seen by a medical man, often under circumstances suggestive of criminal neglect, or even worse; and matters are even more lax in Scotland, where there are no coroners, and where people may die and are buried without any official notice being taken of the fact. I believe it is the rule in some parts of Wales to be buried without proper certificates. The number of exhumations, compared with inquests, is about 1 to 3,000. Dr. Danford Thomas, coroner for Central Middlesex, held in seven years 10,000 inquests, and only three exhumations were ordered in that time. Again it is thought that should suspicious circumstances transpire after burial the body could be exhumed and examined, and poison perhaps found. But this is a popular delusion, which it would be well in the public interest to get rid of as soon as possible. It is true that certain mineral poisons can be detected after months or even years, but the more subtle organic and vegetable ones participate rapidly in the decay of the victims of the grave, and in a very brief space of time all trace of them disappears. Numerous modern researches have shown that putrefactive fermentation in decaying animal matter gives rise to the formation of septine and other alkaloids, some of them intensely poisonous, called ptomaines, and it is found impossible to tell whether the poison has formed after death, or was administered before. According to the experiments of M. Cadet, confirmed by Messrs. Dourvault and Wurst, all the mineral poisons have been detected in the ashes, except perhaps mercury. I simply mention this, not because I consider it at all important, because cases of poisoning would be far more likely to be detected, seeing that all bodies before cremation are opened, and the cause of death properly certified by competent men. In France, Germany, and other continental nations, a public officer is appointed, whose special business it is to see to these matters. He is called in France médicin vérificateur, and from a medico-legal point of view, the practice of cremation is rendered far safer than burial, as at present practised.

By this means, also, it would be impossible to bury a person alive, as is often proved to be the case at present. In fine, look at this question from any point of view you like, it is clearly the best known method of disposing of our dead. The system also would save no end of useless expense, whereby the rich are defrauded, and the poor thrown into debt. Over £800,000 are yearly spent in London alone for funerals. It is rapidly extending among civilised nations, and is legal in America, Germany, Switzerland, and Italy. In Vienna and Lisbon, where it is

compulsory in time of epidemic, and in Denmark, Belguim, Holland, Norway, and Sweden. In Paris a crematorium has been built in Père la Chaise, and an order issued for the cremation of hospital patients who have been dissected, and the commissioner of sewers is thinking of constructing a crematorium at Ilford for paupers. Wherever the question of cremation has been discussed, instructed scientific opinion has been in its favour, on sanitary and economic grounds. There are several crematories in use in different countries, but the one at Woking is after the invention of Professor Gorini, and it can reduce an ordinary body, at the expense of a few shillings, to some three pounds weight of ashes, perfectly white, in an hour. These can be placed in an urn, or otherwise disposed of by the friends. When cremation becomes general, how much better it will be to feel that no more horrible desecration of graves will be possible; and should the spaces of ground set apart for the reception of cinerary urns be required for building or other purposes, through the growth of the population, that the urns and ashes could be safely removed to other spots without violating the feelings of friends. In conclusion, I only hope that each year will see more fire-burials in our midst, and that some means will be found whereby local authorities will be enabled to promptly dispose of the bodies of their poor, instead of burying them in the present revolting manner, and that the intelligence of the public will show itself in a just appreciation of the safeties of this method, which will bring not only health and well-being to the living, but conduce to a proper respect due to the dead. Then that which springs from Earth to Earth returns, and that which draws its being from the sky, rises again up to the skyey height.

THE SURGICAL ASPECT OF RICKETS.[1]

By Edward L. Freer,

hon. surgeon royal orthopædic hospital, birmingham.

The time at the disposal of this meeting necessitates my confining my remarks, as the title implies, exclusively to the surgical aspect of rickets, without entering into its physiological and medical bearings. The surgical affections associated with rickets form a large proportion of the cases that engage the attention of orthopædic surgeons. Tibial curves are perhaps the most frequent deformities that we have to deal with. Every surgeon knows the cases of children with square-shaped heads, unclosed fontanelles, big bellies, enlarged epiphyses, barrel-shaped chests with headed ribs, and more or less curved legs. The fond mother, anxious to show how well "little Tommy" can walk, is constantly encouraging him to get on his feet, and the fact that many of these patients, by some miraculous good fortune right themselves, often induces the medical adviser to say that the child will "grow out of it." This is by no means always the case, and the number of children applying at the out-patient departments of our hospitals is a standing proof of the error of trusting too implicitly to an all-benign providence for a cure.

For slight cases of lateral tibial curves, under three years of age, I apply splints to the inner side, reaching from about two inches below the perineum to two or three inches below the inner malloelus, with straps at top and bottom, and a third at the greatest convexity of the curve. These splints have the double advantage of acting upon the curve, and of keeping the child off his feet. At first they should be worn continuously, but removed night and morning, for ablution with sea-salt and massage, to prevent wasting of the muscles. After a few months, when the curves are improving, the splints may be left off at night. For children over three years of age, and those with anterior curves, instruments should be tried for twelve months (in the latter case with a back bar from knee to ankle, and a double strap over the centre of the curve), when, if these appliances are not successful, osteotomy should be resorted to as a *dernier resort*. Genua valga require in young children somewhat similar splints, with a piece of webbing passing round the back from one splint to the other, a broad centre strap drawing the knee to the splint. Here the treatment may be assisted by passive manipulations night and morning with a pad between the extended knees. If instruments are required, they should be fixed at the knee, or in severe cases have a ratchet joint acting laterally, the instrument being applied in the deformed position, and gradually straightened from time to time with a key. Of the operations of osteotomy I am decidedly in favour of MacEwen's, as being far safer and more rational than Ogston's; and my results from this operation have been so successful that I should be unwilling to adopt any other. I prefer, however, to MacEwen's half-box splint, one devised by my colleague, Mr. William Thomas, which is very comfortable, and keeps the limb in excellent position. For anterior, and some very bad lateral curves, it is necessary to remove a wedge-shaped piece of bone, and in the former a back splint is required to keep the broken ends from riding up. I may add that I now invariably use the chisel, also suggested by my friend Mr. Thomas, which I call the "putty-knife," from its close resemblance to that instrument. There is far less chance of splintering than with MacEwen's, in consequence of the blade being thinner and broader. I have never myself had a case in which suppuration has occurred, and in the one or two cases I have seen, they have necessitated more frequent dressings, but all have done well. I must, however, enter my protest against a practice which has been adopted lately by some surgeons, —of putting these cases in plaster, and treating them as out-patients. We must remember that we have to do with simple deformities, and a procedure which might possibly be permissible in cases of accident, owing to undue strain or bad accommodation, or other causes, is, I consider, absolutely unjustifiable in these cases, where a little delay is of no practical importance; and were a death to occur to one of my patients so treated (a contingency not at all beyond the bounds of probability), I should feel myself morally guilty of manslaughter. I would also insist on the necessity, after osteotomy, of children at all events (and those in which the bones were found to be soft at the time of operation), wearing some retentive apparatus for at least twelve months, or until the rachitic condition has been replaced by the stage of eburnation, for I have met with several cases at the Orthopædic Hospital, where after operation elsewhere, the limbs were quickly retroceding to the abnormal state. Although many surgeons now perform these operations without antiseptics, I should be very unwilling to abandon such an important adjunct to the safety of modern surgery.

Redressement forcé has been suggested for these cases, and lately a formidable instrument has been described in the journals with this object, but taking into consideration

[1] A paper read at the Clinical Section of the Birmingham and Midland Counties' Branch of British Medical Association, February 22nd, 1888.

the uniformly excellent results of osteotomy, and judging from the appearance of the "osteoclast," I should much prefer to see it handed over to the contractor for bending tram rails, to making use of it for straightening leg deformities in human beings.

Pes valgus, or flat foot, is a very frequent result of rickets, especially when knock-knee exists and the centre of gravity is consequently thrown on to the inner side of the foot. A great proportion of children, when they first begin to walk, have flat feet, but the normal arches in these cases tend to develop as the muscles are strengthened by exercise. Light manipulations are useful in all such cases; when more deformity exists, I apply a light poroplastic splint to the foot while held in an adducted position; this the mother removes night and morning for manipulations and massage. In older children it may be necessary to apply a broad, well-fitting boot with a sole thickened on the inner side (Thomas' heel), together with manipulations and exercises to be later described. When still more deformity exists, and only a partial restoration of the arch is possible without much force, it is necessary to have some form of pad in the boot. I prefer super-imposed layers of felt to cork or india-rubber, as not so liable to cause corny thickening of the sole; or Holland's patent sole, which is light and effective, but rather expensive for hospital cases. The exercises here also must be systematically carried out. When the tarsal bones have become more or less fixed in the deformed position, the scaphoid being in some cases so much subluxated that the tubercle is in contact with the ground in walking, and there is actual contraction of peroneal tendons and ligaments, the only satisfactory treatment is by *redressement forcé, i.e.*, forcible manipulation under anæsthetics, sometimes also tenotomy of contractured tendons. This, however, is not nearly so frequently required as was formerly imagined. The apparent contraction is usually spasmodic, and in the majority of cases entirely disappears under the anæsthetic. The treatment, as laid down for milder cases, is even more necessary here, but for the first fortnight at least after the operation the feet must be kept in a state of extreme adduction by a padded malleable splint applied to the outer side, and a pad placed in each arch. The *redressement* may have to be done several times at intervals in very severe cases. The exercises I advocate are those suggested by Roth, and described in Kinesi-therapeutic language as "(A) Sitting foot inward circumduction forty times. (B) Sitting foot adduction (G.R.) and abduction (P.R.) twenty times. Walking on the toes, and, as the case improves, hopping on one foot, are also useful exercises. I have had numbers of most severe cases under treatment, and have never once seen a case that required osteotomy as suggested by Ogston, except a congenital deformity in the little child of a friend (non-rachitic), where there was an outward bend of the lower end of the tibia, which was rectified by osteotomy of the tibia and fibula.

One of the most important affections dependent on rickets is spinal curvature. The most frequent form is posterior curvature, which is very common in young children and often associated with pigeon breast. I recommend in these cases a malleable iron back-splint, covered with thin sole leather and padded, having elastic corresponding to the ribs, and laced in front, while to the upper part are attached elastic armlets to keep the shoulders back, and bands of swansdown, which can be replaced when soiled, attached below. When there is pigeon breast, a small pad may be placed over the projecting sternum. The exercises called breathers (alternate deep inspiration and expiration) are most useful in these cases, when the child is old enough to do them properly and systematically. Lordosis, or anterior curvature, is very frequently of rachitic origin; properly selected exercises, together with massage of abdominal muscles, are necessary in these cases.

Rotary-lateral curvature or scoliosis, when of rickety origin, is perhaps the least amenable to treatment of all rotary-lateral curvatures. We all know that when osseous changes have taken place in a scoliotic spine, to that extent or nearly so, is the deformity incurable; and while I hold that the majority of lateral curvatures are due at the outset to bad positions and relaxed muscles, which it is quite possible to detect before osseous changes have commenced, and that if we could insist on the prophylactic treatment of all young children in schools and at home by proper positions and rational free exercises, the number of scoliotic patients would be enormously reduced, still I must acknowledge that in rachitic children the osseous deformity is the primary condition, and treatment can only be directed to preventing its increase, and these are almost the only cases in which a body splint in the form of a divided plaster cuirass is indicated. This, however, should be removed at once whenever the patient can be entirely at rest on a couch or in bed, and the same exercises prescribed as in ordinary cases of scoliosis, special prescriptions being arranged for each individual case, and when the bones are sufficiently hard, and the muscular system developed, the cuirass should be dispensed with entirely. The rib-deformity is often much in excess of the rotary-lateral deviation, and therefore I insist especially on the exercises called "breathers" being carried out very systematically. I have reason to affirm by experience that the expansion of the lungs thus induced exercises the only improvement on the angular rib-deformity that it is possible to obtain. The other exercises I employ are too numerous to mention in this paper, several hundreds having been formulated from which it is necessary to prescribe those suitable to each individual case.

For further information I would refer you to Roth's Handbook, Von Ziemssen on Orthopædics, Schreiber on Massage, and other works. After each seance, which should never be of less duration than twenty minutes, massage of the back has a stimulating effect on the muscles, and also relieves the tired feeling that necessarily ensues. This treatment, far from being irksome to the patients, is a source of pleasure to them, and my patients, almost without exception, look forward to their daily course of exercise with delight.

I may mention that nearly all the cases of left dorsal curvature I have met with were of rachitic origin. I cannot leave the subject of curvature of the spine (and this after carefully noting their positively baneful influence for a period of nearly fifteen years) without cautioning all surgeons against those barbarous "relics of the Inquisition"—the so-called "instrumental supports."

I feel that my paper has been somewhat crude, but the subject is such a wide one that it was impossible to enter into the theories of pathology, etc. (which have been exhaustively dealt with in the numerous works on Orthopædics), unless I had devoted far more space than could have been allowed at this meeting, but I have attempted to prove to you my conviction that most of those unsightly deformities of rachitic origin that we see daily

in our streets are amenable to treatment by substituting simple common sense principles and the judicious exercise of our art for a "laisser faire" system on the one hand, and the indiscriminate assistance of the instrument-maker on the other.

REMARKS ON THE TREATMENT OF RHEUMATIC FEVER.[1]

By C. Orton. M.D.

RELIEF OF PAIN BY LOCAL APPLICATIONS A PROMINENT FEATURE.

In January, 1882, I published a short account of the "Treatment of Rheumatic Fever by Salicin and its Compounds," wherein I expressed my belief that these remedies, without necessarily being specific in their action, were in the highest degree useful in controlling the fever; and further, that in the local application of soda salicylate to the inflamed joints, was to be found a simple and efficient method of relieving pain.

I will quote three cases. I am indebted to Dr. Stokes Hatton for the notes of them.

Case 1.—R. S——, æt. twenty-five, potter; second attack. First attack seven years ago, since which time he has suffered from dyspnœa. Present illness of three days duration. Temp. 100.8°. He had a systolic murmur at apex and disastolic at base, both apparently old; heart large. The pains in the joints were relieved at once by the lotion, and quite gone in about fifteen minutes. Temp. normal in twelve hours, but on the fifth day rose again after medicine had been diminished and the lotion suspended, subsiding again under treatment next morning, and there was no subsequent rise of temperature, and no return of any pain. No alteration in the cardiac symptoms occurred during the illness.

Case 2.—A. F——, æt. thirty; first attack; ill fourteen days. No joint free from pain. Temp. 103°. Pain began to abate as soon as lotion was applied, and ceased in from half an hour to an hour, and never reappeared. There was no cardiac affection at any time. In twelve hours temp. fell to 100.4°, and became normal in fifty-eight hours.

Case 3.—J. B——, æt. nineteen; first attack; ill three days. No cardiac mischief. Temp. 103.2°; fell to 100° in thirty-six hours, and became normal in forty-eight hours. Pain subsided immediately, but reappeared in other joints, though but slightly. Treated with same result.

Now the relief from pain gained in these cases is a fair sample of what I have met with in practice; but the relief from pain, though highly gratifying to the sufferer, does not constitute the cure, or the end of the complaint. Without caution it may even do harm, by raising the false belief that because the pain has disappeared the disease is cured, and the patient naturally ventures to do more than is good for him. Here are two illustrations. 1. I wrapped up the affected joint—the left ankle—with the lotion in the morning; the pain began to subside at once; was quite gone in half an hour, and the patient walked down stairs in the afternoon, and was surprised when the right ankle became still more painful than the left had been.

The second case was one from a neighbouring county on a visit, who had had two previous attacks. I found the wrist much swollen, red, and very painful. I put it up at once, gave a prescription, and advised her either to go home at once or go to bed. She did neither. The pain disappeared. She went out for a walk; did not even get the prescription made up; and I need scarcely say that I was summoned again the next day, and remained in attendance a few weeks. You will perhaps pardon me for quoting a minister of religion on this subject, but he put it fairly and pithily. I had attended him for a second attack of rheumatic fever. He says, "I do not think that the treatment has shortened the attack by a single day, but in my first attack the pain was excruciating, for which I had to take opiates. In this attack I have had no pain worth mentioning after the first application of the salicylate."

This fairly represents my opinion. I do not make out that the salicin treatment will get a patient out of the hospital twenty-four hours sooner than some other methods of treatment; and, further, unless you are careful to continue the medicine, you are exceedingly apt to get a relapse, and I invariably combine, or follow up with, bicarbonate of potash. I willingly acknowledge that the treatment by salicylate of soda is the most successful I have ever tried, for as pain is the leading and prominent symptom of rheumatic fever, and relief from pain the first—if not the great—consideration, I claim that in the vast majority of cases even with small doses, so as never to have any toxic effects, the combined treatment of internal administration and external application of soda salicylate has given in my hands almost instant and lasting release from pain, and reduced the temperature; but I cannot go with Dr. Maclagan, when he claims that it cuts short an attack. No! Salicin is not the specific in rheumatic fever as quinine is undoubtedly in intermittent fever.

You may ask, have I had no failures even in the relief from pain; well, not many; but I have, and when I look back over my cases it strikes me that in those cases where the perspiration was most intense, where the acid smell was most marked, where, in fact, I suppose the greatest amount of lactic acid was either being formed or retained in the system, there certainly was the effect of the local application very unsatisfactory. This failure of one remedy in certain cases naturally makes one pause to consider whether a certain train of symptoms is always due to one cause. Dr. Maclagan argues very cleverly that the cause of rheumatic fever is of malarial origin. A distinguished member of this branch (Sir W. Foster) still holds, I believe, the idea that lactic acid is the cause, and quotes a case which, in my opinion, Dr. Maclagan has not explained away.

In one of my last cases treated (a most offensively acid one) the cause could not possibly have been of malarial origin. Here I obtained more relief from salines and opiates than with the salicylates. In a still later case the cause may have been malarial, and here the pain was gone within fifteen minutes. In the subacute forms of so-called rheumatism nearer allied, in my opinion, to gout, the lotion has no special action.

Further Remarks.—The above paper was read on Feb. 23rd at the meeting of the Staffordshire Branch, held at Stafford. On Feb. 25th the *B.M.J.* gives us the exhaustive report on Acute Rheumatism of the Collective Investigation Committee. I beg to point out that under the head of "Cases in which Salicin, Salicylic Acid, or its Salts Failed," no less than seventeen of them are reported by different observers to have had profuse or considerable

[1] Read at the Staffordshire Branch Meeting, Stafford, February 23rd, 1888.

perspiration. In my experience, as I have said before, it is in these cases of profuse acid perspiration that I have failed with the salicylates, and I had come to the conclusion—unlike the one arrived at in the report—that it would be better to begin with the saline treatment at first. At any rate, I believe that, so far as the salicylate of soda is concerned, if it is going to be of any use at all, its beneficial effects are very markedly and very speedily shown, and valuable time may be lost in persevering with the treatment unless benefit begins to accrue—I may almost say—within the first few hours.

CASE OF RELAPSING TYPHLITIS—RECOVERY AFTER ASPIRATION (2)—EXTERNAL INCISION, WITH REMARKS.[1]

By Frederick H. Alderson, M.D.

The disease termed typhlitic inflammation of the walls of the cæcum, or its appendix, has occupied the attention of the profession rather prominently of late. The Medical Society of London, after a most able and suggestive paper by Dr. Bull, of New York, "On the Surgical Management of Typhlitis and Perityphlitis," devoted the evening to its discussion. More recently, Sir Dyce Duckworth has published a clinical lecture in the *Lancet* "On the Symptoms and Treatment of Typhlitis." The attention, too, of this society has incidentally been called to this interesting and important disease by our late excellent president, Mr. Keetley, in his practical paper on "Tubercular Peritonitis," and on that occasion in the after discussion I narrated a case that occurred in my own practice of typhlitis in a delicate boy of fourteen, whose recovery resulted after aspiration (2) and an external incision, when alarming symptoms had very plainly shown themselves.

It is now my pleasure to show you this patient, who, after the long period of two years and a half, has continued perfectly well, and whose recovery, after the external incision, proceeded (excluding the sinus) uninterruptedly; and, in fact, he is now a much stronger youth than he was before his attack of typhlitis, when he was a somewhat delicate and backwardly developed boy of fourteen. I purpose to read from a few brief notes of the case, and to offer some remarks on the cause of the attack, the prominent symptoms, the treatment, and the general prognosis of typhlitis, and also a few words as to the prevention of a relapse. In the meantime, I would ask your examination of the patient, directing your attention to the locality of the abscess, to the pale cicatrix of about an inch and a half in length, perpendicular to, and about an inch above, the centre of Poupart's ligament, denoting the situation of a sinus—that at one time was indolent and persistent—and also to the character of his inguinal hernia, which bulges here, and remains as the permanent legacy of his illness.

I attended this youth, E. V——, then a lad of fourteen, in 1886, from July 6th to July 17th, with what I then thought was a gastric feverish attack: he had a dirty tongue; suffered from retching, constipation, anorexia, and slight rise in temperature. He complained of stomach-ache, and of pain in the right inguinal region. There was no signs of any hernia, but some indistinct history of a previous sprain. After a week's rest in bed, gentle aperients, and saline mixture, he was quickly convalescent, and returned to school after a fortnight's absence, rather against my wish; but as his studies were important, and his temperature normal, I gave a reluctant consent.

On August 2nd I was again called to attend E. V——, but this time he was evidently more seriously ill. The symptoms were the same, but more severe, and at first rather suggestive of typhoid; and I carefully searched for spots, but discovered none. There was much more pain, which radiated all over the abdomen, but appeared to originate, and was more severe, in the right iliac fossa. After ten days there was distinct tenderness, and a slight fulness over the cæcum. This apparent distension of the cæcum was at first considered as a proof of the possible typhoid type of the fever, but there was never any gurgling; nor, indeed, at any time any serious doubt that the illness was not typhoid, nor of any of the infectious fevers. Nausea and sickness were now prominent symptoms; the abdominal pain was almost constant, and was more diffused; the tongue was furred and brownish. These symptoms continued for about a week, alternating with remissions, and occasional paroxysms of pain; but on the 10th he appeared easier, the sickness much better, the bowels relieved, and the temperature 100°. I decided to attend the British Medical Association meeting, leaving him in skilled hands.[1] On my return from Brighton on the 16th I found the symptoms much more pronounced, and no doubt as to the disease; and there was now a decided and prominent distension of the right iliac fossa, and acute tenderness, and the general aspect and prospect of peritonitis. On my evening visit I found him very ill; temp. 103°, and in very great pain. He had on Sunday passed a very restless and painful night, and on the Monday morning the temp. had risen to 104°. He had another bad day, and on the early morning of the 17th I was hurriedly called to him by his parents, who were greatly alarmed, for he had had no sleep, and had been in agony all night. The temperature was 104.3°; the pulse small and rapid; the breathing short; pain all over abdomen, but much more severe at the seat of tumour (for the swelling was now increased and prominent). The condition of the patient was one of great danger; that pus was present there was not the slightest doubt, and if it was not promptly got rid of, I felt that the boy must die. I decided to empty the abscess by the aspirator, the patient being highly nervous and excitable, and the swelling very sensitive even to the slightest touch. I proposed that he should have chloroform: this was given by my friend, Mr. Alderton, whose opinion, too, I was glad to have, and who quite thought with me that aspiration promised the quickest and safest relief. I drew off by the aspirator about a pint and a quarter of dark green, vilely-smelling, pus, and as I withdrew the needle we noticed *a few bubbles of gas*. Mr. Alderton also remarked to me the distinctly *fæcal odour* and character of the pus. Immediate and great relief resulted, and on my visit a few hours after the aspiration the temperature had fallen to 100°. E. V—— slept well the following night, but it was soon evident that the abscess was refilling, and that the encouraging results were only temporary, for as the abscess refilled there was a return of both pain and fever. I aspirated on the 19th, Mr. Alderton administering chloroform, and this time three quarters of a

[1] The patient was shown, and the case described before the West London Med.-Chirurg. Society, at their Clinical Meeting, Jan. 4, 1889.

[1] I would here gladly thank my *locum tenens*, Mr. Ernest Thompson, now of Kirkham, for his management of the case during my temporary absence.

pint of the same ill-smelling pus was drawn off, and the same immediate relief of symptoms followed, the temperature almost at once falling to normal.

After this second application the abscess filled now with greater rapidity, and two days afterwards was much more superficial, and fluctuation easily detected; the patient was evidently better. I decided on the 21st to treat it as an ordinary abscess, and opened it with a Syme's knife, and inserted a large drainage-tube, and covered abdomen with linseed poultice, and over this a layer of tenax. Pus flowed very freely from the drainage-tube, both through and at the sides of the tube; the first few poultices, and also the tenax, were saturated with pus. I washed out the abscess night and morning by syringing with carbolised hot water, and then injected weak solution of tinct. iodi., and later on Zn. SO_4 v. Ag. NO_3.

After the external incision there was never any rise of temperature, and the progress towards recovery was continuous and uniform. After a few days, when both poultices and tenax were profusely saturated with pus, suppuration slowly but perceptibly declined; but after the removal of the drainage-tube a fortnight later a sinus of three or four inches in length remained, and a part of this refused to heal, and threatened in spite of all stimulation to become persistent (although up to this date, and ten days later, the patient had not left his bed). I therefore laid it open with an ordinary bistoury, and then dressed with zinc lotion, and it soon healed. The sinus previous to incision had contracted, and was considerably reduced in size after pressure by coin pads, and the application of a well-adjusted spica bandage.

On September 12th E. V—— left home for Ramsgate quite well; but on his return after a month's residence at the sea, I found the wound continued perfectly sound, but inguinal hernia now existed at the seat of the former abscess, for which I ordered a hydrostatic truss, and this he continues to wear, and is very comfortable.

This is the history, the treatment, and recovery of this youth from a no slight attack of typhlitis; that it was a grave attack there is no doubt, and was not one of those least dangerous forms as Sir Dyce Duckworth described, that in an early stage "present an iliac tumour, involving only the caput coli, and not the appendix (in my patient there was no decided swelling of the iliac fossa until a comparatively late period of the illness), and it is just these cases of delayed iliac swelling that are usually the most urgent, and the more likely to prove fatal."[1]

That the disease originated in the appendix is most probable, for all authors appear agreed that it is the vermiform appendix of the cæcum that is the part involved in 70 per cent. of the cases of typhlitis; and that the bowel was the seat of the abscess may, I think, be said to be proved by the gas bubbles that escaped on the withdrawal of the needle, and by the vilely fæcal odour of the pus. The causes of typhlitis are generally limited to two—catarrhal inflammation, or intestinal irritation—and it is almost invariably due to an irritant when the appendix is the lesion affected. I feel rather confident that this illness was due to irritation produced by habitual constipation. There was a distinct history of confined bowels; this may have been caused through the neglect of the boy to attend to nature's calls. He went to the City of London School, a distance of over five miles from his home, and had to walk a mile to get to the station, and to be at school by 9 a.m. He told me in consequence he had often to hurry over his breakfast, and no time to go to the closet; and, as he said very often, he had to drive off the action of his bowels.

One or two remarks as to the symptoms: the pain at first was rather misleading, and was described as stomach-ache; yet on closer examination, although it radiated all over the abdomen, it could always be found that it originated from the right iliac fossa. I would like also to direct attention to the invidious nature of the early symptoms—that induced at the beginning of illness the suspicion of typhoid—that crossed my mind, and that the exacerbations of the evening temperature, and the looseness of the bowels after the mildest aperients, to some extent gave credence; but this suspicion was of the briefest duration, as I never seriously thought that it was any form of infectious disease that I had to treat. E. V—— had one symptom, however, that I very particularly remember, and that was a distinct resistance to touch, especially on the slightest palpation. Now this resistance of the right oblique, the transversalis and rectus abdominalis muscles, is a symptom of typhlitis that can be early noticed, and is particularly mentioned as of importance in the lecture of Sir Dyce Duckworth, to which I have already referred. As regards treatment, physicians state that typhlitis is a malady not without risk, but that it will get well by rest and opium; and, as Dr. Bristowe adds, with leeches.

In a leading article in the *Medical Press* for November 12th, the editor writes: "In 70 per cent. of the cases, however, the appendix itself is the starting point, and the subsidence of the symptoms is likely to be followed by recurrence unless the offending portion of the gut is removed." Again in an editorial article on "Perityphlitis," February 27th: "The risks to life of relapsing perityphlitis are only to be successfully dealt with by the patient submitting to laparotomy."

Now because my patient has made so good a recovery, and because I am able to show him to you quite well, and without having had any relapse after so long an expiration of time (now almost three years) that I think possibly that this opinion may be rather too surgical.

Mr. Bull told the Medical Society of London that he had separated his cases of typhlitis that required surgical treatment into three groups. The first consisted of ten cases in which the abscess was opened by incision through its walls without opening the general peritoneal cavity, at periods varying from seven days to six weeks—they all recovered. The second group comprised six cases in which the peritoneal cavity was opened seven times for supposed perforation of the appendix, with developing peritonitis; the earliest thirty-six hours after symptoms; the latest on the fifth day—*death followed two.* The third group was represented by a single case: the abdomen was opened in the presence of threatening symptoms on the twelfth day of a perityphlitis: no pus was found, nor were there any evidences of recent peritonitis, but the appendix was buried in a mass of old peritoneal exudation.—*Vide Lancet*, November 10th.

Now the removal of the appendix must, I should think, be regarded even by an heroic surgeon as a serious operation; yet I incline to think that had this youth fallen into the hands of an expert surgeon, confident in his skill in operating, and judging that the brief illness in July was an attack of typhlitis (and I have no doubt now that it was), he might have thought it right, and the more effectual treatment, to have performed a complete laparotomy, and to have removed the appendix..

Now the vermiform appendix may be, as a distinguished

[1] Vide *Lancet*, October 6th, 1888.

pathologist has said, merely a receptacle for "the cherry-stones that children accidentally swallow"—only a nidus for all manner of indigestible and forbidden food; but it is eight or nine inches long, is often found to contain fœces, and is not wanted for ornament or uniformity. Is it therefore unreasonable to suppose that it may have some unknown use, that further light may show, and further research and experiences prove, that it may be worthy of more consideration than perhaps it has yet received, either from the brains of physiologists or at the hands of the surgeons? The best prophylactic is not, I think, the extirpation of the appendix, but rather, the future safety of the patient is in the avoidance of chill, and in the careful attention to a well-selected regimen, eschewing melons, figs, oranges, or any article of food that contains seeds, pips, or that is indigestible, and particularly to promote a daily matutinal action of the bowels.

As to the special and milder surgical measures used in the case before us, I would mention that although the aspirations did not cure the patient, did not prevent the speedy re-secretion of the pus, yet they gave immediate relief, at once removing the pain and rapidly reducing the temperature. But aspiration did more; it gave the patient strength; it enabled the boy to take nourishment, and afforded time for the abscess to mature and the pus to come almost to the surface, so that fluctuation was easily detected; and time, too, for the abscess to become more circumscribed, for its walls to strengthen, and to become stronger, shutting off more effectually the peritoneal cavity, and reducing the chances of any unfavourable sequelæ, thus rendering the external incision a trivial operation to what it might have been at the time of even the first aspiration, and specially at an earlier period of the illness, when the abscess was evidently more or less deeply situated.

With regard to the medical treatment, my own observation confirms the remark of the boy's mother, that he was always better after action of the mild aperient given. The small but frequent doses of grey powder, or soda and grey powder, relieved his sickness, and when followed by an occasional enema of warm water, or warm water and opium, eased his pain, and action of the bowels sometimes resulted. Opium, with and without belladonna, was given internally, and often with relief more or less of acute pain, but I think Mr. Lawson Tait's is a wise and timely remark as to the "not infrequent need of caution in the administration of opiates for continued abdominal pain, especially in cases of long-continued inaction of the bowels." I can never forget a case of chronic typhlitis that occurred in an elderly lady whom I attended, and to whom by the advice of the consulting physician who had seen the patient with me (three times in the week of the lady's death), I gave opium, or opium and belladonna, frequently for nine days of continued total constipation of the bowels, and who died quite suddenly immediately after a first and sudden attack of fæcal vomiting. The *post-mortem* revealed no obstruction, but intense enteritis, a large cæcal abscess, and the intestines greatly distended with fœces. There can be no doubt that opiates tend to paralyse the bowels and increase silently the mechanical congestion. A word or two in conclusion as to the locality and the cicatrix. Sir Dyce Duckworth, in his lecture, calls attention to the observation of Mr. Treves: "That the cæcum is most frequently situated not in the right iliac fossa, but in the fascia of the psoas muscles; but a meso-cæcum does, however, sometimes exist, hence you may meet with a cæcal or appendicular hernia." This is what I think we may have here, for if the abscess had been on the psoas the boy might probably have been lame, at any rate for a time, and not able, as he was, to swim almost within a month of opening the abscess. A pale cicatrix marks the situation of what at the least was a much larger sinus than the remaining scar. Mr. Knowsley Thornton says these sinuses are very apt to become persistent, and very apt to occur if the patient is not kept in bed, and are "usually quite incurable."

In speaking of the prognosis of typhlitis, Dr. Bristowe, in his "Theory and Practice of Medicine," at page 667, writes: "Sometimes the patient recovers; sometimes he lingers for months or years with a constantly discharging abscess, or succession of abscesses."

As a closing remark I would mention that it occurs to me that cases of typhilitis are more common than is generally thought, and especially, perhaps, is this the case in young children. I believe many a case of what may be termed, or is called, febricula, is really mild typhlitis, and if the child could speak, or was old enough to express his feelings, would complain of pain in the right iliac fossa. Indeed, I have in some such cases as I refer to, noticed a puffiness, if not a decided swelling, that was not a hernia nor "a windy rupture," as our poorer patients often term a swelling in an infant's groin (I am speaking as to my own experience). But if the illness is slight, and these cases recover, they are forgotten; but perhaps at early puberty (and they are generally boys) these little patients may become the victims of more or less acute typhlitis. If the symptoms are not acute but insidious, and they recover, these attacks may even then pass unrecognised, or perhaps be mistaken and euphoniously called gastric fever, or a gastric attack, especially if the symptoms are not urgent and the recovery rapid. The term gastric fever ought, perhaps, never to be used by a well-informed medical man; yet who of us do not use it occasionally, for the term is convenient, and it does not alarm? Although not exact it is more or less truthful, for there is nausea, or sickness, and there may be fever and pain, and the public look coldly upon the doctor who cannot, or who does not, give a name to the disease he has to treat, so "gastric fever" or "a gastric attack" will continue to be used; and like as Dr. Maudsley once said of congestion, that it was like unto charity, for it covered a multitude of sins, so also will the term gastric fever be more or less frequently used, pleasantly covering many varied omissions and not unpardonable errors; but this mis-naming disease, if used seriously and without due thought, is scarcely to the credit of medicine, or in accordance with the exactness of a science, or even to the advantage of the patient.

Note.—The appendix appears as if it dilated and shortened *pari passu* with adult life. I have noticed in some youths (and in my early professional life I made a great many *post-mortems*) that it is sometimes much longer and narrower than is usual.

THE PROSPECTS OF MEDICINE IN AMERICA.[1]

By A. R. Baker, M.D., Cleveland, Ohio.

The present is a transitional period in the history of medical education in America. Our system of medical instruction has been of gradual growth, and peculiar to this country. The first physicians who practised scientific medicine in early colonial days were educated abroad. But the supply was not equal to the demand. "In 1776

[1] Opening Address, Medical Department of the University of Wooster, February 27th, 1889.

it has been estimated that there were not two hundred graduates of medicine in the country, and not over three hundred and fifty practitioners of medicine who had received a liberal education." Young men without previous medical education were taken into the office of practising physicians, for whom they rendered such assistance as building fires, taking care of the horses, dispensing drugs; and, in the course of a few months or years, were permitted to see emergency cases and visit patients. Thus originated our peculiar institution of medical preceptors. Many of the early practitioners of medicine never attended a medical college. There were no such schools in this country, and few could make the long voyage across the Atlantic to attend the European medical institutions. And we are told that even "during the early part of this century, almost the entire body of men who entered the profession, entered through examination of one of the 'Boards of Censors,' as the examiners were called who were appointed by the State medical societies and their auxiliaries." In this way, "these societies were the principal agents in fixing the standard of medical education; and although after the establishment of medical schools, the diploma of one in good repute was accepted in lieu of an examination, this was by courtesy rather than by law." The tendency of present medical legislation in several states is to return to methods similar to those tried in the last century and found deficient. I hope it will prove more satisfactory in this.

The medical colleges were the natural outgrowths of the system of medical education in the preceptor's office, and, consequently, systematic courses of medical instruction were not attempted at an early period. They were not endowed or supported by the State, but depended upon the fees of the students. They, "like many institutions peculiar to America, were called into existence by the necessities of the time." Medical students would naturally seek physicians of wide reputation as preceptors, where they could have the advantages of a library, and possibly a few "bones," or even an entire skeleton. It was in the office of this practitioner that the student gained his first knowledge of medicine and surgery. "Here he pulled his first tooth, opened his first abscess and performed his first venesection, applied his first blister, and administered his first emetic." "His clinical lectures were heard as he rode from one patient to another with his master."

Three years of such study were necessary before entering upon practice, the same length of time required now. As the reputation of a physician became more famous, students came to him in greater numbers. Gradually his lectures, given upon horseback as he rode through the country, took a more formal character, and were delivered in his office, or possibly in some public hall. This formed the nucleus of a medical school. "Several such teachers united their efforts, and thus were organised the medical schools of Philadelphia and other cities." The first authentic record we have of dissections having been made, for the purpose of imparting medical knowledge, was in the year 1750, at which date Drs. Bard and Middleton, in the city of New York, "injected the blood-vessels of a body which they dissected for the instruction of several young men engaged in the study of medicine." It is quite probable that similar dissections were made prior to this date by other physicians, of which no record has been preserved.

According to Dunglison, in 1754—56 a course of lectures on anatomy and surgery, accompanied by dissections, was delivered at Newport, Rhode Island, by Dr. William Hunter, of Scotland; and in 1762 Dr. Shippen, in his anatomical lectures at Philadelphia, laid the foundation of a medical school, now the University of Pennsylvania. It was organised upon the plan of the Edinburgh Medical School, and has been the pattern which all our colleges have imitated. In 1767 steps were taken for the establishment of a medical school in New York, which is now known as the College of Physicians and Surgeons. In 1782 the Medical Department of Harvard University was organised by Dr. John Warren, and was located at Cambridge, Massachusetts. The fourth medical school instituted in this country was that of Dartmouth, at Hanover, New Hampshire, in 1797. These were all the medical schools established in the United States before the beginning of this century. Thus it will be seen that the establishment of medical colleges is of comparatively recent date, and that the great mass of physicians, in the early history of the country, received their medical education in the office of the preceptor. This method of study has its advantages: while it does not, as a rule, make scientific practitioners, the medical man educated in the physician's office has many advantages over the one educated in the medical school. He has abundant opportunity for clinical observation; he is trained daily in the art of prescribing and dispensing medicines; he learns many of the essentials of a successful practitioner which cannot be gained in the lecture-room, or even in hospital and dispensary practice. Our patients suffer from mental ills as well as physical ones; and the secret of retaining their confidence during serious illness, or during the meddlesome interference of some busybody, can only be learned by practical experience, and this experience can be gained nowhere so advantageously as in the office of a successful practitioner. But notwithstanding the many advantages of study in the preceptor's office, this time-honoured custom is fast becoming a tradition of the past. The average medical student of to-day is not willing to sweep office, build fires, groom horse, care for children, and make himself generally useful to the doctor's family, in order to pick up the few crumbs of medical knowledge which may be dispensed by the way. The increased time spent in attendance upon medical lectures leaves but little time for study in the preceptor's office. The writing of prescriptions has dispensed with much of the necessity for the student's assistance in compounding medicines. Sharp professional competition makes it necessary for the physician to give his patients his personal supervision. He cannot turn them over to the tender care of the medical student as formerly. These are but a few reasons why the position of medical preceptor is becoming of less importance from year to year, as a factor in medical education. All endeavours to elevate the standard of medical education must take this fact into consideration—viz., that *the medical preceptor has served his day and age, and must be numbered among the antiquated institutions of a pioneer civilisation.*

The lengthening of the course of lectures in our medical colleges, the preliminary terms, the spring courses, the post-graduate schools, and the increased popularity of spring and summer schools, all attest to the need of some system of medical instruction to supplant the medical preceptor. But this increasing of the length of the college term and number of courses required for graduation has only served to call attention to the defects of the didactic lecture system of medical instruction. The course of medical lectures has gradually been increased from three or four to five or six months. Most schools have made

provision for a third or even a fourth course of lectures, and quite a large number of schools have made a third course a requisite for graduation. It was an imposition upon the medical student to compel him to listen to the same course of lectures twice; but to compel him to take the same dose the third or fourth time is more than even a medical student, who is expected to patiently bear all sorts of indignities, should be called upon to endure. The remedy for this anomalous position in which the medical colleges find themselves situated is easily found. It is the *graded course*. But the remedy is easier discovered than applied. In order to successfully conduct a three years' graded course the number of hours devoted to teaching must be trebled; either every professor must devote three hours a day to teaching, whereas formerly he gave but one, or the number of teachers must be increased threefold. In the former case the college must be endowed, or the fees greatly increased, as but few teachers could give the amount of time requisite for the merely nominal compensation which the average medical college professor now receives. In the latter case, if a sufficient number of teachers are employed, the quality of the institution must suffer from putting inferior men in the responsible position of teacher. A few years since the announcement of the Medical Department of the University of Pennsylvania, a graded school, contained one hundred and thirty-one names of professors, lecturers, and assistants. The same year the announcement of Jefferson Medical College, an ungraded school, contained less than twenty names of professors, clinical assistants, and other instructors. These two announcements illustrate very graphically the requirements of the two systems of education as to the number of teachers employed.

It is pleasing to note that those schools which have adopted the graded course of instruction "have every reason to feel gratified at the result attained." I believe that it is only a question of a few years until every medical school will be obliged to adopt a graded course of some kind in deference to public opinion.

The late Professor Gross, speaking of the class of 1877 in Jefferson Medical College, says: "It is lamentable to think how imperfect the whole system of medical education is in this country. Our students are driven from one lecture to another, hour after hour, like so many cattle, and the wonder is that when they come up for their final examination at the close of the session, they have any knowledge at all of a fixed or definite character. The fact is, much of what the student is taught in the early part of the session is knocked out of him before the close. He gets a daily surfeit from the beginning to the end, and the consequence is that his knowledge is vague and imperfect in every branch of his studies."

"Of the two hundred and three candidates for graduation fourteen were suspended. They were re-examined, and all passed but five!"

In a recent address on surgery as a science and an art, Dr. Frothingham, of Ann Arbor, said: "Didactic lectures, instituted in the days when books were few and costly, by the power of conservatism, have already held their place of prominence longer than they should. They have outlived their period of usefulness, and seem to serve for the entertainment of indolent students more than they do the purpose of thorough education in such a branch as surgery."

Dr. Dutton, previous to this, asked, in the *Cleveland Medical Gazette*, "whether the time has not fully come when the attention of the medical profession should be called to methods of medical teaching. In all our colleges didactic lectures occupy the time for the most part. Clinics and quizzes are sandwiched in, but the published time schedules, which fairly represent the plans pursued in all or nearly all the courses of study, show that lectures (so-called) are the sources from which the student is expected to acquire professional knowledge. On five or sometimes six days of the week he is required to listen to these from four to seven hours daily, with the exception of the few minutes allowed, between lectures, for change of teachers or lecture rooms. Why should medicine be taught in this miscellaneous way, while in all other departments of scientific instruction primary importance is attached to classification? May it not be proper also to enquire whether it is profitable for any student, of whatever mental capacity, to pursue so many branches of study at once? Those most familiar with teaching tell us that three solid studies are as many as can be pursued at once in other schools, and the courses of studies in our scientific and literary institutions everywhere are arranged on this plan. By what principle do we make medicine exceptional in this respect? Might not the professors in our medical colleges learn much to their profit by consulting more frequently those who have studied more specifically the principles and art of teaching? More lectures are given now than formerly, where fewer might be better. The stuffing processes are the same now as ever. The student is seldom expected to *prepare* a lesson. He has no time. He often cannot know the topic even of the next hour. Nor has he time to review carefully a lecture after he has heard it. He frequently does not so much as own or have access to the books which treat of many subjects presented to him, His preparatory studies with his preceptor have, in many instances, been pursued also in a desultory way. Preceptors *precept* very little, and the facts are that medical students, as a rule, from the time they enter a preceptor's office until they are honoured by their M.D. degree, have little opportunity to receive careful, methodical, scientific teaching."

If the time has come when the preceptor must go, when the didactic lecture must go, what system of medical education must be adopted? I think that it is the belief of everyone who has given the subject much thought, that most subjects, such as chemistry, anatomy, physiology, and materia medica, should be taught by recitations, laboratory work, and "quizzes," the same methods that have proved most satisfactory in other educational institutions. The course of instruction must be increased from five or six to ten or twelve months, and not less than three years of such instruction must be necessary for graduation. Clinical teaching must be made a more prominent feature in all our medical schools.

Such a radical change as this contemplates cannot be made at once. It must be of gradual growth. It will require greater facilities for laboratory, microscopical, and experimental research than medical colleges now possess. It will necessitate a large corps of teachers who devote their entire time to teaching. This will necessitate large endowments, such as none of our medical colleges now have. If this, then, be true, we cannot at once give up all that has proved of value in the past; we must make the best of such material and advantages as we have at our command.

Dr. Billings says that in the discussion of medical education, "it seems to be often assumed that all physicians

should have the same qualifications and be educated to the same standard, which, in one respect, is like saying they should all be six feet high, and, in another, is like the army regulations which prescribe the same rations and allowance of clothing for Maine and Florida, Alaska and Oregon. A young and energetic man who has spent six years in obtaining a university education, and four more in the study of medicine as it ought to be studied, that is to say, in preparing himself to study and investigate the rest of his life, will not settle in certain districts. He has invested ten years' labour and from five to ten thousand dollars, and a locality which will give him a maximum income of perhaps fifteen hundred dollars per annum will not be satisfactory; in part, because the capital should bring a better interest; in part, because he will have acquired tastes which will make his life unpleasant in such places. Yet these places must have physicians of some sort, and it is not clear as to how they are to be supplied if some of the universal and extreme reforms in medical education which have been proposed are to be enforced."

The old system of medical preceptors and didactic lectures has not proven a complete failure, notwithstanding all that has been said against it by friends and enemies alike.

The medical profession in the United States compares favourably with that of other countries, in which the period devoted to medical study is from four to twelve years. "We have reason neither to boast nor to be ashamed of what we have thus far accomplished, and we may begin this new era in the hope and belief that to us applies the bright side of the maxim of Cousins, 'It is better to have a future than a past.'"

As long as it is possible to secure such enthusiastic, successful teachers as Gross, Flint, and Delamater, the didactic lecture will occupy a place—probably a minor one—in the curriculum of medical study in our medical colleges.

At this transitional period in the history of medical education, there is a place for the spring and summer medical school, such as only the Medical Department of Wooster University and one or two similar schools now fill. Many medical students have found their study in the preceptor's office unsatisfactory. The usual medical course of five or six months has left him no means of pursuing his medical studies except in a sort of desultory reading, such as he may be able to do at home. Whether the spring and summer school has come to stay, and thus solve the problem of increased length of college year, or whether it is only a stepping-stone to a full year's course of medical instruction, I cannot say.

Among the many changes wrought in the requirements of a medical education, is that of not making a written "thesis" a requisition of graduation. When the only method of instruction was the didactic lecture, and the only examination an oral one, the faculty had no adequate means of estimating the fitness of a candidate to receive a medical degree.

The "thesis" gave some clue as to the applicant's knowledge of English grammar and orthography. It also, if honestly written, gave an opportunity to judge of many other qualifications of the student. But as the theses were written merely as a formality necessary to graduation, they deserved the just criticism of Dr. Gross, who said that "not one in fifty affords the slightest evidence of competency, proficiency or ability in the candidate for graduation." This being true, and written examinations having been substituted for oral ones, it is very easily understood how the "thesis" should fall into disrepute; yet I think the colleges are making a great mistake in giving up this important requisite of graduation. If the "theses" were printed, as in European schools, the strictures of Dr. Gross would not prove true. Then, there would be every inducement for the student to do his best. There would not be much danger of deliberate plagiarism when he knew that his friends, medical men, the public and the press would be his critics, instead of one professor, who, in all probability, would not read it. The publication of the "thesis" in this manner would have "a permanent historical value; they would reflect the character of the teaching, and would serve to stimulate the student to make original research."

Before medical journals were established, a number of valuable "theses" were published in this country. At that time it was permissible for a professor to "prefix a statement, not to exceed sixteen pages, as an introductory notice to a 'thesis' of a student." It was not necessary that the introduction should have any connection with the one discussed in the student's paper. Sometimes the professor would continue his subject through twenty or thirty dissertations, so that many of them are not wholly preserved. This is one of the few ways in which a physician of that time could make a record of his observations. "If a country doctor wished to make a communication to his professional brothers in those days, he was obliged to print it in pamphlet form at his own expense, or else send it to someone connected with either a medical school or with some scientific society, and trust to his making it known for him." This was the day of big books, and if a physician did not wish to write a volume, there was little inducement for him to attempt literary work.

"Boerhaave, one of the most remarkable physicians of the eighteenth century, and one of the most voluminous contributors to the medical literature of that period, left an elegantly bound volume at the time of his death, which stated on its title-page that it contained all the secrets of medicine which a physician need know. Upon opening the book it was found that all the pages were blank except one, which contained this sentence: 'Keep the head cool, the feet warm, and the bowels open.'" You will find before you complete your medical studies that there are *more* secrets for the physician of the nineteenth century to learn than were contained in this legacy of Boerhaave.

Now I presume, to be in fashion, I should put on a long face, and in a deep and sepulchral voice inform you that you have made a grave mistake in commencing the study of medicine; that the profession is overcrowded; that actual starvation stares you in the face; that it were better not to have been born. This is all nonsense. There are worse professions than the medical. It is true there are many unpleasant experiences in a doctor's life, but the same is true of every occupation. It is also true that barely half of you will follow the practice of medicine as a profession. Some of you will become lawyers, others preachers, others missionaries, others newspaper men, and many of you will enter mercantile pursuits. But what if you do? What have you lost? The knowledge you gain in the medical school is the most valuable you can have. It was Dr. Dick who said, "It is somewhat unaccountable, and not a little inconsistent, that while we direct the student to look abroad over the surface of the earth, and survey its mountains, rivers, seas, and continents, and

guide their views to the region of the firmament, where they may contemplate the moons of Jupiter, the rings of Saturn, and thousands of luminaries placed at immeasurable distances, and yet we should never teach them to look *into themselves*, to consider their own corporeal structure, the numerous parts of which they are composed, the admirable functions they perform, the wisdom and goodness displayed in their mechanism, and the lessons of practical instruction which may be derived from such contemplations."

Agesilaus, king of Sparta, when asked what things boys should learn, replied, "Those which they will *practise* when they become men." If this was good advice given to the youth who dwelt upon the shores of the Ægean sea, two thousand years ago, it is even more so, still, to the young men who dwell in this fairer land of ours.

It is remarkable what a beneficial influence a medical education has in strengthening the physical, mental and moral stamina of a young man. I think the young men who commence the study of medicine are not above the average in these attributes. In fact, if we are to believe the recent statements which have been made as to the preliminary attainments of medical students, they are quite the opposite. Yet I think no one will question the statement that the members of the medical profession are the peers of those of any other. They have a keener perception of the fitness of things. They may not have a great veneration for religious dogmas, but they have an acute sense of right and wrong. There is a subtle something that lends dignity and strength to the character of those educated in medical colleges, not found elsewhere. In just what this consists, I am not able to say. Those of you who, after completing your medical education, enter upon other pursuits of life, will never have occasion to regret the time and money spent in the medical school. The knowledge gained *about yourself* will prove ample reward. There are in every community a number of successful business men, who have been regularly educated in medical schools. I have never met one who regretted the time spent in medical study. I have met some who did the time spent in medical *practice*.

Those of you who are destined to become the physicians and surgeons of the future, are on the dawn of one of the brightest periods in the history of medicine. You will have the pleasure of reading some of the most wonderful books ever written. None of them have been completed. One of the most interesting will be on the subject of bacteriology. Only the first few pages of the introductory chapters have been written. It remains for you to write the book itself and tell us what influence these germs have upon the economy. Are they the cause of disease or only the result? One of the works, even more important than that on bacteriology, is that on ptomaines. Of this great book even the introduction is not written—only a few detached lines here and there, and these in foreign tongues.

There have been many additions to the ponderous volume on therapeutics. It is wonderful to think what has been done in the past five years, ever since some of you commenced the study of medicine. Cocaine has revolutionised the practice of eye surgery and diseases. New antipyretics have been introduced in such numbers that we are left all at sea as to which to use in the treatment of fevers. Acetanilide, and other similar preparations promise to supersede the use of opiates in the treatment of painful affections. Time forbids me to more than mention the advances of modern surgery. This book is much nearer completion than those in other departments of medical progress. The introduction to this work is complete, and many chapters written, yet there is much for you to do. The greatest book of all is barely commenced, and that is the one on "Preventive Medicine." It may be there are young men before me now, destined to make discoveries rivaling that of vaccination.

Who among you will discover some certain means of preventing the ravages of consumption, diphtheria, scarlatina, measles, typhoid or yellow fever? He who does will have his name placed alongside of that of the immortal Jenner, and will be remembered when that of Alexander the Great and Napoleon are forgotton.

If, then, you are about to lay the foundation of a professional life with such boundless possibilities, make them broad and deep, and it may be your good fortune to add a few pages to these wonderful volumes that will serve to add to the happiness of the race.

Whatever niche you may occupy, always remember that yours is a good and noble profession, and never permit yourself to degrade it to a trade.

The medical profession is the best profession; the worst trade. As a profession, the physician attends medical societies; he establishes medical schools; he publishes medical journals and books. As a trade, he publishes quack advertisements in the religious newspapers; he compounds secret nostrums; he promises no *pay*, no *cure*. As a profession, he attends sanitary conventions; he spends his best time and money in discovering the cause and the best means of preventing disease. As a trade, he magnifies small ailments; he caters to the ignorance, prejudices and superstitions of the people, and charges big fees for curing diseases which have no existence except in his fertile imagination. As a profession, he educates the medical student; he communicates to him all the knowledge which years of study, investigation and experience have taught him, so that the young man may practise intelligently and well; he endeavours, by every legitimate means, to elevate the standard of medical education. As a trade, he obstructs medical progress; he retards beneficial medical legislation; he cares not for the good of the people; no scheme so foul, no practice so low, but that he will undertake it to fill his pocket with money; he will violate every sacred bond of humanity; he will transgress every law of the land; he will sin against himself, his patient, and high heaven for a few paltry dollars. As a profession, when the physician makes a valuable discovery, he hastens to publish it in the medical journals, or announce it to the medical societies, where it will do the people most good and himself the most harm financially. If he invents a new instrument, instead of patenting and making a fortune out of it, he straightway puts it into the hands of the profession, without money and without price. He is animated by the same professional spirit when he meets a case of diphtheria, typhoid fever, or other preventable disease; he spares no time or labour to remove it, and thus lessons his already meagre income. Instead of one case of typhoid he might have had a dozen.

It is ever thus, the physician is constantly labouring to prevent those diseases he is paid to cure. He educates young men to enter the profession only to take the practice he has so laboriously established. Judged by any trade standard, the members of the medical profession are either fools or madmen! But let us thank God that the practice

of medicine is not a trade, but a grand, good and noble profession, of which it has been said, "it is the flower of our civilization, and when that stage of man is done with, and only wondered at in history, he will be thought to have shared as little as any in the defects of the period, and exhibited most notably the virtue of the race. Generosity he had such as is only possible to those who practise an art, never to those who drive a trade."

TUMOURS OF THE FEMALE BREAST, WITH NOTES OF CASES OF FOUR DIFFERENT TYPES OF THE DISEASE.

By Herbert Collier, M.D., L.R.C.P., M.R.C.S.,
surgeon royal naval artillery volunteers.

Tumours of the female breast are so common, and so interesting, both from a pathological and clinical aspect, that I shall make no apology for bringing the subject under the notice of the profession. And I have been particularly induced to do so, from the fact that some time back I had no less than four different varieties of this disease under treatment at one and the same time. These four cases included, a scirrhus in an early stage, and a rapidly-growing sarcoma of a most malignant type, which grew to the size of an adult head, burst in several places, giving rise to fearful hæmorrhages, and destroyed its victim (worn out by hectic and exhaustion) eighteen weeks from the first notice of anything amiss.

Although I shall not give this latter case in detail, I may be permitted to mention that the patient enjoyed the advantage of several of the leading opinions of this town, and although strongly persuaded at an early stage of her disease, and by myself subsequently (but before the growth took on such malignanty) to have it removed, she refused to allow any operative interference, and thus sank a victim to her own obstinacy.

In making the foregoing remark, I am fully sensible that many authorities theoretically condemn surgical interference in such acute malignant growths. But with all due respect to such opinions, I must submit that surgical interference is more justifiable, nay, imperative, in such cases, than in any form of disease of the breast. For if the surgical hand is withheld, and the patient is permitted to take her chance, what has she to look forward to? The few short days of her life (and in these cases they must be few and must be short) will be spent in exquisite agony of body, or in that exquisite agony of mind which will certainly accrue from apprehension of such suffering; in terror of frightful and ever to be dreaded hæmorrhages, or dazed and drunk from the effect of some anodyne.

On the other hand, there is little to be feared from the immediate effects of the operation, and it is a well-known fact that secondary growths in internal organs, should they occur, are less tyrannical in the suffering they inflict than the parent disease. And not only this, but removal of the offending disease affords immunity from immediate suffering, and gives fair chance of prolonging life.

My third case was particularly interesting, as it afforded some scope for diagnostic exercise. The patient was a married woman, æt. forty. Had never become a mother, or even pregnant so far as she knew, although she had been a wife since the age of twenty. Menstruation regular and natural. Family history good, with nothing of interest, or bearing upon the case attached to it. Parents alive, and enjoying excellent health: father, seventy; mother, sixty-four. First noticed a knot in the right breast about three months before I saw her. At this time it was not painful, but it afterwards became rather tender. Had increased to double the size during the last few months of its growth. When first seen by me, the woman, although spare, appeared in excellent general health, but somewhat nervous as to the nature of her disease. The left breast was found to be slightly wasted, but otherwise natural. The right breast larger than the left, presenting midway between the nipple and axillary border a hard, more or less globular, and circumscribed movable tumour, as large as a pigeon's egg; non-adherent to skin, nipple natural. Some tenderness produced on superficial pressure.

Looking at the woman's age, and to the fact that she asserted, "she had wasted a good deal since the lump appeared," together with the hardness and presence of an enlarged gland in the axilla, one could not help for the moment suspecting the presence of scirrhus. On more careful examination, however, doubt was thrown upon this conclusion by the mobility of the tumour, its non-attachment to surrounding structures (the skin could be freely moved over it), the healthy condition of the nipple, and the absence of that stony hardness so characteristic of this disease. A certain elasticity about it, with a slight sense of fluctuation, induced me to conclude that it might be a sero-(uno) cystic formation; and a grooved needle having been introduced, doubt was speedily effaced by the ready escape of some thin, clear serous fluid.

The treatment consisted in tapping, by means of a small trocar and canula, evacuating the contents of the tumour (which was of the same nature as the fluid just described, and which proved to be non-albuminous), and injecting half a drachm of pure carbolic acid by means of the canula, evacuating all the acid which would make its escape, and applying pad and compress. A good deal of pain followed this procedure, but only for a few hours, and although very little irritation followed, sufficient inflammation ensued to effect adhesion of the opposite surfaces of the sac. Since the operation, performed now many months ago, the patient has never had the least return of her local trouble, and the breast to all appearances is perfectly healthy.

My fourth and last case I will ask permission to give at greater length.

Mrs. D——, a married woman, æt. twenty-nine; mother of four children, of which three are living (one having died in infancy of bronchitis); consulted me concerning a painful lump in her left breast.

Family History.—Father died at the age of thirty-six, of heart disease and dropsy. Mother, sixty-five; healthy, with the exception of a weak heart, which gives rise to occasional attacks of dyspnœa, for which she was then under my treatment. Eleven aunts: one died of consumption. The rest are healthy. Four uncles: one died of typhoid fever, and one lost at sea, the remaining two being alive and healthy. One brother and one sister, both alive and healthy.

Previous Condition.—Had chicken-pox at an early age, and was subject to attacks of bilious headaches; otherwise always enjoyed excellent health. Menstruation regular (occurring at intervals of three weeks), and accompanied by no pain or constitutional disturbance. Has always had good times at her confinements.

History of Present Disease.—About three years previously after the death of the child already alluded to, and whilst

pregnant, she became subject to attacks of intense pain in the region of the left breast, which was also very tender. Did not notice any alteration in the size or shape of the gland. These symptoms continued during her whole pregnancy, and after the birth of the child. At this time it was found that the glands secreted scarcely any milk, and the pain continued as before. Eight months ago, when weaning her child, the pain became still more frequent, and she now noticed for the first time a small hard lump situated at the outer side, about two inches from the nipple. This was at first painless on pressure, but subsequently became extremely tender. Together with the steady increase in the size of lump, the pains have become more constant and of greater severity.

An interesting feature in this history is that the patient declares that during menstruation (which lasted eight days) the pains entirely ceased, and the lump became distinctly smaller, and less tender. This fact I subsequently verified for myself.

Condition.—At the time of first seeing her the patient was a florid young woman, of clear skin and healthy appearance, although somewhat spare, and conveys an anxious expression of countenance. General state satisfactory. All the organs healthy. The right breast natural, left breast small and wasted, and presenting to the outer side of the nipple, and about two inches from it, a smooth oval elastic tumour, the size of a bantam's egg, apparently incorporated in the gland substance, not fixed to surrounding structures, skin, and nipple; perfectly healthy.

Having diagnosed a simple adenocele (synonymous with the chronic mammary tumour of Sir Astley Cooper, mammary granular tumour of Paget, or adenoma of Birket), and since numerous ingenious and equally painful forms of counter-irritation (from the production of mere hyperæmia to ulceration of the skin) had been attempted without success, and iodide of potassium and iodide of mercury had been tried without producing any beneficial effect, I strongly advised the patient, on account of the constant pain, and constitutional disturbance to which it was giving rise, to have it removed. This she gladly consented to, and the operation was effected, whilst the patient was under chloroform, on the 20th January. Listerism was observed, as carefully as the absence of a spray would admit. The vessels were twisted, and a drainage-tube having been inserted, the edges of the wound were brought together by six interrupted silver sutures. The temperature never rose above 99°, and that only on the second night. The wound united by first intention throughout its entire length, except where the ends of the drainage-tube emerged. There was absolutely no formation of pus, except at these two points, and the patient at her own special request was permitted to leave her bed on the fifth day. From this time she made an uninterrupted recovery.

AN ENQUIRY INTO THE CURRENT THEORIES OF THE CAUSES AND NATURE OF ACUTE RHEUMATISM, AND THE TREATMENT GENERALLY ADOPTED FOR ITS CURE.

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(*Continued from page* 145.)

I HAVE already recorded my opinion that the proximate or exciting cause of acute rheumatism is a chill, and that the morbid effect is produced through the agency of the nervous system; that it is essentially a specific form of endocarditis; and that the cardiac affection is not merely an incident or occasional complication, but in reality the initial or seminal principle from which spring up the myocardiac, arthritic, pericardiac, pleuritic, meningeal, and other occasional developments and complications of the disease. I believe that endocardial inflammation is always present in acute rheumatism, but not always recognised, and not always recognisable in its early stages, but that in such cases its presence is always to be presumed and taken into account, and provided for by appropriate treatment. The clinical history of endocarditis, in its relation with acute rheumatism, is both interesting and instructive; its *rôle*, as the chief factor in its production, was only established slowly and step by step, just as the discovery of the circulation of the blood was the work of centuries, and not of one but of many minds, having been foreshadowed by Galen, by Vesalius, by Sylvius, by Fabricius, and Servetus, until the genius of Harvey, building on the firm basis of previous discovery, completed the edifice in a perfect manner. It was thus that Sydenham, about the end of the 17th century, whose practice was founded on the obvious indications of nature rather than on prevalent theories, was the first to clearly distinguish acute rheumatism from gout, to which he was himself a martyr; and to mark his estimate of its inflammatory nature, he treated it by antiphlogistics and free bleeding. The next important advance in diagnosis was not made till the beginning of the 19th century, when Dr. P. M. Latham, in 1826, imparted to his class in St. Bartholomew's Hospital the discovery of a new clinical fact; that whenever the heart was affected in acute rheumatism, a sound, different from the sounds of health, always accompanied its contraction; this was the bellows systolic murmur, but its significance was then unknown to him. It remained for Bouilland, in 1835, to reveal to the world that this abnormal sound was caused by inflammation of the endocardium, the truth of which he had abundantly verified by the *post-mortem* examination of patients dying in hospital from rheumatic fever. About the same time, Dr. Watson and Dr. Stokes, as the result of independent observations, assigned to the exocardial murmurs their distinctive diagnostic value, as the certain signs of pericardial inflammation. Dr. P. M. Latham, whose writings I shall frequently have to quote, and who was gifted with a keen perception of scientific truth, accepted the teaching of Bouilland, confessing that "Endocarditis, at present chiefly known as a concomitant of acute rheumatism, was unknown to him in its real extent and frequency during two-thirds of his professional life."

This recognition of the concomitance of endocarditis and acute rheumatism, led on by natural development to the final pronouncement of Hueter, who regards endocarditis neither as a complication nor a mere concomitance, but as the primary pathogenic factor in its production.

This thesis, so much opposed to the humoral pathology, may not prove quite acceptable to those theorists who, on finding the blood altered in composition by the endocardial inflammation, as in pleuritis or pneumonia, attribute the deposits on the lining membrane of the heart and the joints to a hyperinotic state of the blood, instead of crediting the change to the agency of acute inflammation of these organs, and who endeavour, by alkaline and other drugs, to alter its chemical and vital character. John Simon, now Sir John Simon, writing many years after these demonstrations and discoveries, and treating of acute rheumatism as "a disease

of intense over-fibrination of the blood, and one in which there are other conditions besides *quantity*, making the fibrine easy of precipitation," writes: "I believe that the origin of these vegetations is directly humoral; that they arise as fibrinous precipitations from an overcharged solution, the valves encrusting themselves with fibrine just as a stick in certain streams coats itself with a calcareous envelope." While, *per contra*, Sir William Gull, the advocate of solidism and the localisation of disease, treating of gout, rheumatoid arthritis, and rheumatism, writes thus: "Whether they have humoral sources has of late become more and more doubtful; of the pathology of acute rheumatism we may be said to know but little beyond its clinical records and its symptoms, but, unhappily, this has not always been sufficiently recognised, and too often a dangerous polypharmacy has rushed in to the cure where science has not yet advanced her foot." It is most probable, however, that the endocardial theory of acute rheumatism, like other great truths, will in course of time gain the mastery over prejudice and long-cherished predilections.

The testimony of medical authorities on this etiological point, varies according to their scientific training and modes of clinical examination; those, who like Bouilland and his cotemporaries, recognised or mistook the products of endocardiac inflammation for its signs or symptoms, taught that one half, others that three-fourths of rheumatic patients suffered from endocarditis; later writers have gradually increased the percentage, until but a small proportion remains in which their instruments of precision cannot recognise either its active presence or its morbid products. Thus, of 136 inmates of St. Bartholomews Hospital, from 1836 to 1840 inclusive, under the care of Dr. P. M. Latham, the subjects of acute rheumatic, the doctor states, "that three-fourths were affected with endocarditis, while a large portion of the remainder were saved from its infliction, by active anticipative treatment, adopted as soon as the premonitory signs: such as anxiety, tumultuous action of the heart, the lengthening and roughening of the first sound or præcordial pain, had appeared and given warning of its approach." Dr. Sidney Coupland, in the debate at the Royal Society, as already quoted, declared "that of his eighty-four cases there were only twenty out of the whole in which endocardial bruits were not detected at one time or another." While Dr. Sibson testified that out of seventy-four cases of acute rheumatism, treated in St. Mary's Hospital, only one-fifth escaped from endocardial inflammation. If necessary, many other reliable authorities, bearing similar testimony, might be referred to; but, outside the statistical argument, the literature of the subject strongly upholds the theory of the concomitance, and the omnipresence of this potential causative agent in acute rheumatism. Hueter, according to Sonator, asserts "that endocarditis may be present without giving rise to either subjective or objective symptoms; that it may well precede the inflammation of the joints, even although not recognised till afterwards; that its presence must be assumed in those cases which appear to run their course without any cardiac complication." Dr. Stokes in his work upon "Diseases of the Heart and Aorta," p. 103, writes "that cardiac inflammation may be developed, unattended by any evidence of valvular disease, and that he has seen cases that could not be explained on any other hypothesis, except that of the absence of murmur in endocarditis." The influence of this disturbing element affords an explanation of the difficulty put forward by Aitken as to "why the rheumatic inflammation of the joints is frequently preceded by febrile disturbance, and also why sometimes, the fever runs so high before any local symptoms have established themselves."

That rheumatic fever may exist without any joint affection, did not escape the observant mind of Dr. Graves, the great clinical teacher of this century; he announces the fact in his "Clinical Lectures on the Practice of Medicine," first published in 1843, and supports his statement by giving the particulars of a case in which the fever continued, after all joint disease had disappeared. After relating the leading symptoms, he observes, "Here we have a man admitted with rheumatic fever and inflammation of the joints; we try to cure the disease, and we succeed in removing the fever, but the joints remain inflamed; we remove this also, and congratulate ourselves on a recovery, and we again have fever and arthritic inflammation; we overcome this, and again a relapse comes on; but mark the difference, we have now fever, but the joints are unaffected! This is a curious circumstance, and confirms me in an opinion I have entertained for some time, that we may have rheumatic fever without inflammation of the joints. Again he says, "these peculiarities I have frequently remarked, but it was only lately that I became aware that this species of fever may exist without inflammation of the joints. These considerations are of practical interest, and prove that in the treatment of acute rheumatism, we cannot hope to cure the fever by means which merely tend to get rid of the arthritic inflammation. *As arthritis may exist without rheumatic fever, so rheumatic fever may exist without arthritis; when combined, they each aggravate the other, but the cure or disappearance of one, does not necessarily determine the removal of the other.*" Like Dr. P. M. Latham, he teaches "that in rheumatism the action of the heart must be carefully watched, and when it becomes increased without any apparent cause, that occurrence alone is sufficient to warn us of the approaching danger. This point has not, I believe, attracted the attention it deserves, and its importance is enhanced by the fact that an increase of the heart's action may not only precede the physical but the constitutional symptoms of that organ or its membranes, and consequently be the only beacon to forewarn us of a danger still beyond the visible horizon, and undiscernible by any other means." Bouilland, to whom the pathology of acute rheumatism owes so much, points out that in this disease, endocardial inflammation may exist in different degrees of intensity, and that its presence may often escape the investigations of the unskilful physician. He also objects, with Graves, to the vulgar belief of the prevalence of metastasis, and refers to the persistence of the fever in many rheumatic patients, even after the joint disease had disappeared, a fact only explicable by the persistence of the cardiac affection. He also alludes to the fact that pain is not essential to rheumatism. The existence of acute rheumatism or rheumatic endocarditis in children, without any arthritic concomitance is a matter of common observation, these cases are often accompanied by erythema nodosum, on the extremities and trunk, or by well-developed nodules on the skin and fibroid structure, as much indicative of rheumatic origin as arthritis itself, and too often leaving behind them a heritage of valvular disease, chorea and other nervous affections. The important observations of Dr. Thos. Barlow and Dr. J. Warner on subcutaneous nodules in children, subjects of acute rheumatism and chorea, founded on the history of twenty-seven cases, demonstrate

clearly that they truly conform to the general type of acute rheumatism, and that they may be considered in themselves as pathognomic of rheumatism, even in the absence of pain; when, as is so often the case in childhood, the evidence of well-marked arthritis may be wanting, and that their nature is probably homologus with that of the inflammatory exudations and vegetations on the cardiac valves after death from acute rheumatism. Some cases, published by Dr. Gee in the 24th volume of St. Bartholomew's Hospital Reports, although not altogether very well marked examples, support, to a great extent, the teaching and the experience on this point, of our bygone masters in pathology.

That the great pioneers in rheumatic pathology regarded the disease not as a fever, but as an inflammation, may fairly be deduced from their treatment of the affection; and the modern preference of the term "acute rheumatism" to that of "rheumatic fever" is an involuntary admission of its truth. The broad distinction which Andral drew between fever and inflammation seemed to be also known and recognised by them, and to have powerfully influenced their treatment. To begin with, Sydenham, perhaps the greatest of English physicians, relied principally upon the abstraction of blood for its removal.[1] In his own nervous words, he directs "Ut primum accessor, statim sanguinis ℥x. e brachio *Lateris Affecti*, mitte jubeo. . . . Die sequenti, sanguinis tantumdem detrahi principio; atque intercalato die uno alterove, pro ægri viribus, tertio; dein interjecto trium quatuorve dierum intervallo (prout ægri vires ætas constitutio aliæque circumstantiæ suadent monentque quarto, atque ultimo ut plurimum, venesection repeto, raro enim usu venit, ut ultra quartam vicem venam incidamus, nisi vel regimen justo calidius præcessent vel medicamina calidiosa ægro præter necessitatem fuerint ingesta."

And Bouilland, with his practical knowledge of the pathological connexion between endocarditis and acute rheumatism, differed but slightly from Sydenham in the persevering manner in which he prescribed venesection, *coup sur coup*, as he expressed it, often to the extent of four to five pounds and more. Recognising, apparently, the *rôle* of the nervous system, Bouilland also prescribed opium for the relief of pain, and as adjuvants, blisters, compression, bandages, spread with mercurial ointment, and strict antiphlogistic regimen, till resolution was accomplished.[2]

Dr. P. M. Latham, whose classic work on "Diseases of the Heart" is practically a dissertation upon the cardiac affections allied with acute rheumatism, shows, in his treatment of that disorder, to what pathological school he has given his adhesion. With Sydenham and Bouilland, he regards it as one of the phlegmasial, and treats it as they did, by depletion, by opium, and by purgatives. In his treatise, the pathological alliance between the nervous and vascular systems in the causation and treatment of rheumatism were fully recognised, and their recognition was practically exemplified in his plan of treatment. For, while he condemns those that rely solely on blood-letting, he disapproves as much of the treatment by opium alone, the soothing remedy of that day, so much relied on by Corrigan and others; and while chiefly depending on judicious and moderate bleeding and purgation, he does not discard the aid which opium yields in the alleviation of pain, and its sedative influence on the nervous system. His efforts were not merely directed to the prevention of death in acute rheumatism; he aimed at curing the disease by the restoration of the endocardium to its normal condition, and thus not alone saving the patient from impending death, but preserving him from permanent cardiac injury and its painful consequences.

As a proof of Latham's conviction that endocarditis and acute rheumatism were of homogeneous nature, he prescribes for each an identical treatment. What he orders for acute rheumatism he repeats when prescribing for the cure of endocarditis. "Bleeding, mercury, opium—the very remedies you used in acute rheumatism are, I say, still your main reliance when inflammation attacks the heart; but bleeding by leeches or cupping, after or exclusive of venesection, opium to calm the nervous system, and to give effect to the operation of mercury (calomel), is our mode of administering it. Latham, however, in every case of acute rheumatism seen early, devoted all his energies to forestalling the development of endocarditic inflammation, and he repudiates, in forcible terms, the conduct of those who, in such cases, prefer to wait for the auscultatory signs, and thus be absolutely assured of its active presence. "You would not sacrifice men's lives," he says, "to the vanity of diagnosis. The auscultatory signs, when they come, will only serve to localize the disease; the nature is plain enough already, and we treat its nature, not its seat."

And the depletive and antiphlogistic plan of treatment continued to be the favourite mode until very lately. Dr. Law of Dublin, writing in 1864, treating of venesection in acute rheumatism says: "We still employ it, and we conceive we do so beneficially, although not to the same extent as we once did." His treatment was venesection once, very seldom twice, followed by the exhibition of colchicum Abercrombie, by blood-letting, antimony, and opium; and Begbie, by lessening the amount of circulating fluid, and thus altering its constitution; but within little more than a decade, the teaching and experience of eminent pathologists and physicians has been ignored, and the majority of medical practitioners have succumbed to the attractions of a blind empiricism.

My own peculiar plan of treatment, which may be called the abortive plan, proceeds to a great extent on similar lines as those great authorities I have referred to. Recognising the disease as one originating in cardiac inflammation, my aim has been to subdue it by counter-irritation and depletion before the development of the inflammation has lapsed into organic change. Latham says, "if experience has found any treatment which is preventive of endocarditis or pericarditis, then is the time for carrying it into effect—the time of the heart's immunity, which would thus become the most eventful and most important period of the disease." And this treatment, eminently successful in the early stage of acute rheumatism, is also very effective, even after evidence of valvulen disorder. My treatment is of the simplest kind; the application of a blister, four by three inches, for eight hours to the cardiac region, followed immediately by cotton wool dressing, preceded, if in plethoric patients, by leeches in the pericardial region, or cupping at the back in the space between the inferior angle of the scapula and the spinal

[1] The real distinction between inflammation and fever is found by M. Andral in the constituents of the blood. In inflammation its fibrine is always in excess; in fever, never. Thus, acute rheumatism is preeminently an inflammation, and is taken altogether out of the category of fevers.—*Hæmotologie Pathologique*. Quoted by Latham (Lecture xi., p. 222, "Disease of the Heart").

[2] "Nouvelles Recherches sur le Rheumatism Aigue en General et Specialement, etc." Par J. Bouilland, Professeur de Cliniques Medicale à la Faculte d'Medicine, Paris, 1835.

column; but bleeding is the exception, and this remedy often succeeds in removing all the special symptoms, whether subjective or objective, in the space of twenty-four or forty-eight hours.

I scarcely ever prescribe medicine of any kind, but should the case be prolonged, I do not object to the use of opium, alkalies, or salicin, but I relegate them to their proper place, as adjuvants or handmaids in the treatment, after the cardiac safety has been assured through the use of appropriate remedies. I do not mean to convey that by the use of this topical remedy I have succeeded in every case, or that it is entitled to the designation of a specific. I am cognisant of several failures in my own and in the practice of others; I have not always been able to abort the attack, when accompanied with skin disease, such as peliosis rheumatica, pemphigus, erythema multiform, or the sequel of pregnancy, or when engrafted upon chronic valvular injury; but when successful, as it generally is, it effects a perfect cure, a complete recovery, for such an occasion as a single relapse is unknown in its history. I certainly have had three well marked cases of a recurrence of the disease after complete convalescence, due to fresh exposure to cold and moisture, but no relapse while under treatment or without evident cause. According to Latham, "perfect cure does not contemplate that after their removal diseases shall never return; but it does contemplate that before they can begin to return, their actuating cause will have to begin also." I believe with Cullen that "remedies cure disease, only in so far as they remove their proximate causes."[1] If then, Cullen's dictum be accepted, and if a blister over the region of the heart cures a case of acute rheumatism, and its articular complication, it surely would not be unsafe to infer that the proximate cause itself is located in the same region, the heart.

As to the *rationale*, it appears to me that the blister effects the cure by its acting as a depletive, a counter-irritant, a revulsive, and derivative. By the drain which it establishes several ounces of the liquor sanguinis, the serum and albumen of the blood are thereby removed from the circulation in the immediate neighbourhood of the inflamed organ; by its sedative influence upon the nervous system, whose excitability is increased in proportion to the extent of the inflammation, it accomplishes its purpose by lessening the force of the current of blood, and, diminishing its rapidity, it has all the advantages without the disadvantages of venesection, and thus induces a condition most favourable to the resolution of the disease. In discussing the influence of remedies upon the heart, and their incidental effect upon concurrent diseases, the *modus operandi* of drugs administered for the cure of rheumatic fever cannot be passed over. Thus, when the salicylates relieve temporarily, or produce symptoms of poisoning, it is solely through their action as heart-depressants. The potash salts, in like manner, require the fortifying influence of quinine to preserve the heart from their paralysing effects; colchicum, veratrum viride, veratria, all act upon the cardiac and arterial system. While opium acts on the nervous system, and in sleep produces anæmia of the brain, it depresses the functional activity of the cerebral cells; it powerfully influences the circulation and the heart by its action upon the inhibitory cardiac centre, and the intra-cardiac ganglia; and in all acute inflammations it is our chief reliance. Antimony and mercury are depressants and antiphlogistics, and even quinine in large doses produces weakness of the heart and paralysis of the vaso-motor centre; in excessive doses it causes rigor mortis and contraction of the cardiac muscle; and so with all those remedies for acute rheumatism it is found that if at all effective, it is only as heart-depressants and antiphlogistics that they operate, and not through any occult therapeutic agency, and that the measure of their beneficial influence in the relief of individual symptoms of that disorder is exactly the extent to which they operate directly or through the medium of the nervous system on the heart itself.

I shall now proceed to relate the particulars of a number of cases, as observed by myself and others, in which by a simple remedy, and practically without the administration of any medicine, the cure effected was at once rapid and complete. Some of these cases appeared in the "Transactions of the Ulster Medical Society," others in America, and at various dates since my first case, which I now give as it arose.

Case 1.—On October 24th, 1879, I visited Constable H., R. J. C——, æt. thirty, married. He had suffered from a rigor three days previously, followed by pains, especially in the left knee and thigh, which were red and swollen. 25th. Pain had extended to right knee, both ankles and shoulders. 26th.—Left elbow also engaged; perspiration acid and profuse; urine scanty, and loaded with urates. 27th.—State unchanged. Ordered an opiate at bed-time. He had been previously laid between blankets, and his joints wrapped in flannel and cotton wool. 28th.—Had not slept for a week; at one p.m., temperature 102°; pulse 108; no improvement, no cardiac affection observable; at that hour I applied a blister, four by three inches, over the region of the heart, ordering its removal in eight hours, and to be replaced by cotton wool. 29th.—Noon: found the patient completely relieved; countenance cheerful; pulse 90; temperature 98°; tongue clean; thirst diminished; perspiration gone; urine copious and clean; and from being on the previous day paralysed in every joint and quite helpless, he was able without pain to flex and extend every joint, and to sit up in bed with ease. He stated that he began to feel relief at six p.m. on the previous day, just five hours after the application of the blister. Soon after that he fell asleep, and that having occasion to rise during the night he walked unaided across the room, and only remembered his rheumatism after returning to bed. On examining the joints, every trace of redness had gone, and the swelling was scarcely perceptible, the joints could be grasped firmly without pain. He then stood up and walked across the floor without any undue effort. 29th and 30th.—Still improving; pulse 90; temperature 98°; swelling and pain absolutely gone from every joint; heart free. November 1st.—Pulse 84; temperature normal; convalescence complete. A week after he walked to my residence on a frosty day without injury, and he soon after returned to duty.

Case 2.—*Subacute Rheumatism.*—On November 16th, 1879, visited Mrs. B——. She had been confined fourteen days previously; child at nurse; had a shivering on 11th; next day, both hands and left shoulder became painful and swollen; pain increased at night; sleepless for three preceding nights. I found both hands swollen and powerless; all the carpal, metacarpal, and carpo-phalangeal joints were implicated; perspiration profuse; urine scanty and high-coloured. This was her third attack; I did not prescribe a particle of medicine, but applied a blister over the cardiac region. Calling next day, I found the patient sitting up in

[1] Cullen's "Preface to Nosology," p. 16.

bed. Despite the pain of the blister she had slept all night. Perspiration had departed *puri passu* with the pain. The right hand had already regained its power; fingers quite free; and in three days the left hand which had been most swollen was quite relieved. I visited her but twice again. On the last occasion I found her down stairs nursing her baby, and perfectly able to take charge of it. My friend, Dr. William Aickin, saw this patient once with me.

Case 3.—*Acute Rheumatism.*—J. F. R——, æt. fourteen, tall and stout, had a rigor on April 6th, 1880, followed by pains in right and left knee, and ankles. Visited him on the 9th, and found him lying on his back, unable to move, from the swollen state of his joints, especially his elbows. Pulse 88; temperature 101°; urine clear, but scanty; perspiration plentiful. 10th.—Condition unchanged. 11th.—Still sleepless, although had an opiate on previous night; urine now highly acid, with copious deposit; heart pulsating violently; distinct systolic apex murmur. Dr. Whitla, who examined the patient this day, concurred in the diagnosis. In his presence I applied a blister, *regioni cerdis*, to be retained for eight hours. 12th.—We found the patient sitting up and relieved; he had slept soundly all night after the removal of the blister, and had got up unaided to the night-chair; urine again clear; pain and swelling reduced in all the joints, which he could flex without trouble. Pulse and temperature unchanged. 13th.—Still progressing; slept well; urine clear; sweating gone. We found him again sitting up, and anxious for removal into next room. Pulse 68; temperature 99°. 14th.—Temperature 98°; pulse 60. 16th.—Temperature normal; pulse 56. All traces of swelling had gone, and convalescence now complete. He had taken in all ten grains of opium. Dr. Whitla watched the progress of this case with me. The pulse and temperature in this case had fallen so low that I had to order stimulants. Fourteen days after all trace of cardiac symptoms had departed.

Case 4.—*Subacute Rheumatism.*—Miss L. V——, æt. ten, had a rigor on April 17th, 1880, followed by great muscular pains and general malaise, succeeded by urticaria. Both ankles then became painful, red, and swollen, as well as the right knee. I saw her upon the 19th, then in bed, and unable to move from the severity of the pains: pulse 88; temperature 101.0°; urine scanty; clear of acid reaction; bowels confined; perspiration very free; increased palpitation of the heart, and well-marked apex systolic murmur. Ordered a laxative. 19th.—Fever and thirst increased; had not slept. Applied a small blister over the cardiac region for four hours; the joints had been previously enveloped in cotton wool. 20th.—Pain and swelling of joints much less; had slept well; perspiration diminished; urine muddy, with pink deposit; tongue clean; soft murmur over apex. Pulse 86; temperature 100°. 21st.—Pain all gone: pulse 84; temperature 99°. Slept well. Appetite restored. 22nd.—Slight recrudescence of pain in right knee, which is stiff. 23rd.—Pain and swelling gone from knee: pulse 80; temperature normal; blister almost healed; much stronger. 24th.—Convalescent; to be removed to another room. The cardiac symptoms did not quite subside for a period of fourteen days.

Case 5.—*Acute Rheumatism.*—Visited A. S——, æt. thirteen years, on November 6th, 1880, an inmate of an industrial school, suffering from pain in every joint; her third attack. She attributed her illness to a long walk on November 1st, a very frosty day. She was removed to a newly-plaistered infirmary, where I found her with L. G——, the next case. Pulse 112; temperature 103°; heart beating tumultuously; systolic apex murmur. Fifteen minims of tinct. opii were given at bedtime. 7th.—Next day no improvement. 8th.—Before visiting I requested Dr. Esler to accompany me. Pulse was then 120; temperature 103°; face flushed, and she was crying loudly for something to cool her. I then applied a blister over the heart for six hours, to be dressed as usual with cotton wool. 9th.—Visited with Dr. Esler. Our report was pulse 118; temperature 102°; painful symptoms much abated; bruit softer; ankles free; shoulder better. Can flex knee freely. She walked across the room, and returned without difficulty. To-day friction to-and-fro sound first appeared. Applied a blister over the sternum. 10th.—Pulse 96; temperature 99°. Pain absent everywhere, except on left hip; urine clear; slept well. 11th.—Pain of hip gone; pulse 100; temperature 102°; pericardiac trouble subsiding, as well as apex murmur. 12th.—Dr. Whitla joined Esler and myself. His report was: "No affection of any joint whatever; nor is there pain or tenderness anywhere, except over the cardiac region. Pulse 90; temperature 101.5°. A loud friction murmur over the entire area, making a feeble endocardial murmur, near to the left nipple." 13th.—Pulse 86; temperature 99.5°. Cardiac sounds still loud; no articular trouble; further signs of effusion, with prominence of left side. 14th.—Area of dulness diminished: temperature 98°; pulse 72; friction sound less; bruit still perceptible; crepitation at base of lung and left axillary region. A mustard poultice to be applied. 15th.—Pulse 60; temperature 96°; countenance pale; extremities cold. To have two ounces of wine in the day, and hot water bottle to feet. 16th.—Pulse 72; temperature 97°; four ounces of wine. 17th.—Found her sitting up in bed at lunch: 18th.—Improved in every respect, and proceeding to convalescence, when an inexperienced nurse stripped her at the fireside, exposed her to the cold air of the room, and splashed her over with tepid water, when she immediately took a shivering, and all the cardiac symptoms returned with violence. A fresh blister, however, and a week's rest in bed served to restore her, and before the end of the month of November she was quite well, and free from all cardiac and articular troubles.

Case 6.—*Acute Rheumatism.*—L. G——, æt. fourteen; first attack; resembles Case 5 so much that it need not be pursued from day to day. Exposed to the same chill while out on November 1st; lay down about the same time; had similar cardiac ailments; and about the same time recovered her strength. She was then maltreated in the same way by exposure and douching in the newly-plaistered infirmary; took a fresh rigor again; had a return of the cardiac affection; but was not so fortunate as A. S——, for after getting over all acute symptoms, there still remains a persistent murmur at the apex. Both Drs. Whitla and Esler saw this case daily along with A. S——, as she was in the next bed to her. She was up and going about on December 4th, and in six months after undertook the duties of a domestic servant.

The next five cases are contributed by Dr. J. Walton Browne, Senior Surgeon, Belfast Royal Hospital.

Case 7.—*Subacute Rheumatism.*—Miss O. B——, æt. twenty-four, ill since February 10th, 1880, was seen by me on the 16th. She took ill with sore throat and general pains, especially in her knee-joints. She perspired freely on the

12th, and felt better. Her hands and wrists now became swollen and painful, so as to prevent sleep. The pains continued in all the joints, and she became quite helpless. When I visited her, both hands and wrists were much swollen, and she could not bear the slightest pressure; had pain in the præcordial region, with slight mitral murmur; pulse 120; temperature 103°; evidently suffering from acute rheumatism. I prescribed no medicine; but following out the treatment suggested to me by my friend, Dr. Harkin, I applied an emplastrum lyttæ, three by three inches, over the heart for twelve hours. On my next visit, sixteen hours after the application of the blister, I found all pain gone from the hands, except when she moved them, and from the other joints. All swelling had already subsided; the pulse had fallen to 88, and temperature to 99°. Next day I put her on a mixture of potass bicarb. and tinct. opii. She was then able to leave her room, and upon February 26th she left for the country. Certainly the effect of the blister in this case was marvellous, the pain ceasing, pulse and temperature coming down, and all swelling subsiding in sixteen hours after the application of the blister.

Case 8.—*Subacute Rheumatism.*—Miss A——, from the west of Ireland, was seen on February 14th, 1881. She complained of weak vision and general debility, and was very anæmic. I did not visit her again till March 19th, when I found her labouring under an attack of subacute rheumatism. Pulse numbered 20; temperature 99.4° The wrists, knees, and ankle-joints, were very tender to the touch. Ordered a blister, two by two inches, to be applied for twelve hours over the cardiac region, and cotton wool round the joints; milk diet. Called two days afterwards, and was surprised to find my patient sitting up, and all pains gone. She was very weak, but with treatment was quite well upon April 1st.

Case 9.—Miss M. S——, æt. four years, was seen by me upon March 6th, 1881. She was suffering from an inflamed throat, with glandular enlargement in the neck. I prescribed the routine treatment, and did not see her again till March 11th. When I visited her, I found her ill with acute rheumatism. The wrists and knee-joints were swollen and tender; pulse 120; skin perspiring. She had not slept on the previous night, on account of the excessive pain. Temperature not taken. Applied a blister, two by two inches, over the cardiac region for ten hours; cotton wool to the joints affected. No abnormal cardiac sound could be heard. Next day (March 12th) all pain was gone from the wrist and knee-joints. The child had slept for some hours after the blister was taken off; the pulse was down, the expression of the face calmer, and the patient seemed quite easy. On the 13th, I ordered her an alkaline mixture. On the 14th, she was out of bed, and in a few days was running about.

Case 10.—Martin M. S——, æt. five years, brother to previous patient, was visited on March 26th, 1881, suffering from swelling of wrist and knee-joints; pulse 120; thirst excessive; throat congested; had not slept for two days. His mother, knowing the value of the blister in the former case, suggested it to me. I ordered a blister, three by three inches, to the cardiac region for twelve hours, and cotton wool over the inflamed joints. March 27th.—Patient was seen by Dr. Harkin along with me. All tenderness of joints was gone, but some puffing still remained over the wrists; pulse 120. Patient complained of headache, and his pupils were dilated; he had also on the anterior surface of the abdomen and legs a number of spots, resembling purpura. Ordered some bromide of potass with the bicarbonate, and counter-irritation to the nape of the neck. 29th.—All pain and swelling of joints gone; can move hands and legs freely; pulse 100; taking food; still has an inflamed throat, for which I prescribed. April 3rd.—Patient quiet well, with the exception of being a little weak and anæmic.

Case 11.—D. C——, æt. twenty-two, was admitted into the Royal Hospital, Belfast, on March 1st, 1881, suffering from a lacerated wound of the little finger, left hand, followed by an attack of diffuse cellulitis of forearm and arm. After free incisions he became convalescent at the end of three weeks. He had been up but one day when he began to expectorate bloody mucus, and complained of a sore throat. His pharynx was congested and œdematous; this continued for three days, when his temperature suddenly rose to 102°, pulse to 120. He also complained of pain in left ankle-joint. Cotton wool and milk diet were ordered. Next day, left knee and elbow-joints were involved; temperature 103-4°; pulse 120. Great pain and acid perspirations were complained of. Dr. Harkin this day visited the patient by request. On examination of the heart, a mitral whiff was detected. Emplastrum lyttæ, three by three inches, was now applied over the cardiac region for ten hours. Upon its removal, the patient declared himself almost free from pain, although the joints were still swollen. The temperature, which on the application of the blister stood at 103-4°, came gradually down to 99° in forty-eight hours. The patient made a rapid recovery, and left the hospital three weeks from the commencement of the rheumatic attack.

I shall give the particulars of other cases out of my note-book, the types of many others cured since 1879, and then quote from the experience of others.

Case 12.—On December 26th, 1882, I was called to visit W. D——, æt. sixteen years, a mill worker; his second attack. His previous illness was in 1878, when he was confined to bed for eleven weeks, and was not able to return to work for ten weeks. He was attended by two Belfast medical men for that attack. He had a rigor on December 21st, and lay down on the 22nd. I found him lying on his back, sweating profusely, with pain in all his fingers, both wrists, elbows, and shoulders, which were red and swollen, both ankles, and both knees. His back was very painful, and he was incapable of moving off it. Urine scanty, and loaded with lithates. He had not slept for four nights, and had been delirious for the last two. At noon his temperature was 101.8°; pulse 88; heart beating tumultuously, with well-marked apex-systolic murmur. At that hour I applied a blister (six by four) below the left nipple, to be retained for eight hours, and dressed with cotton wool.

December 27th.—Found the patient much relieved. He had slept for four hours. Temperarure 100.8°; pulse 80. Urine unchanged, and red. Had regained some power of his arms and legs; sweating somewhat diminished; pain much less.

December 28th.—Slept nine hours. Pain now only present in left shoulder. All other joints free. Was able, with assistance, to sit up in bed. Back weak, but free from pain.

December 29th.—Temperature 99.4°; pulse 72. Urine plentiful and clear. Got up and sat an hour in an arm chair, having put on his clothes.

January 2nd, 1883.—Temperature normal; pulse 70. Strength returning. Able to walk about the room without assistance, and to sit up, daily, for a few hours. Heart

sounds as before; a soft systolic murmer, less defined. All fever and pain having left on the third day of my attendance.

January 7th.—Final visit. The patient's strength and flesh returning. Will soon be able to resume his employment. In this case I did not prescribe a single dose of medicine. Dr. Whitla was a witness to his convalescence. The blister was not yet healed.

I may here be permitted to quote from Dr. Whitla's excellent work on Pharmacy, Materia Medica, and Therapeutics, 1st and 5th edition, article Cantharides, page 389: "In *acute rheumatism*, blisters to the affected parts have long been advocated; but Dr. Harkin has pointed out surprising results obtainable by a large blister over the heart early in the disease (he believes it acts by curing the endocarditis, which some authorities consider always to be present, and to be the cause of the disease), and the writer has seen it reduce temperature and pain in a most decided way."

Case 13.—Mr. C——, a merchant, unmarried, sent for me on March 3rd, 1885. He was in bed complaining of pain in both ankles, right knee, left wrist; temperature at noon 100°; pulse 84; his second attack. In his previous attack, when fourteen years old, he was paralysed in every joint, ill for seven weeks, and had a relapse, and was confined to the house for thirteen weeks in all. I prescribed a Dover's powder and left. 4th morning.—Pains somewhat relieved, except in right knee and ankle, urine clear and plentiful, free perspiration; temperature 101°; pulse 80. Had a pressing call to see him at 8-30 p.m., and found him in high fever, pulse full and bounding, increased pain in left wrist and ankle and right knee; he was becoming impatient, having important business engagements, so, in presence of his friend, I applied the liquor epispasticus freely over the cardiac region, and left. 5th.—Much better, slept soundly; temperature 102°; pulse 80. Every joint improved, left hand still painful, left and right ankle nearly well, right knee still painful on pressure. His friend, who watched him all night, reported that as soon as the blister began to affect him—about an hour after its application—he became quiet, fell asleep, and did not awake till morning. He said he had read of miracles, but never witnessed one before. 5th, 8 p.m.—Temperature 101.4°; pulse 82. Left wrist still painful, other joints almost free, full power of motion restored. 6th.—Slept well, left wrist free of pain, all other joints perfectly well; no sweating, urine plentiful and neutral, able to walk about without pain; temperature normal; pulse 80. 6th, 8 p.m. —Feels perfectly well, but weak. 7th.—Slept well, every trace of rheumatism gone away.

The late Dr. John Meenan, surgeon to the Mater Infirmorum Hospital, Belfast, in a letter of thanks to me for some orginal papers, wrote: "In the only case in which I was able to try your treatment, it acted, as my patient remarked on the morning following the application of the blister, *like a charm*. The result, I must say, even exceeded my most sanguine expectations. I may remark that in the above case *I gave no medicine whatever*." Dr. Meenan had experienced in his own person, when a student in the Mater Misericordiæ Hospital, Dublin, as he informed me, the benefit of the blister, having had that remedy applied to his heart by the senior physician when ill of his third attack of acute rheumatism, with the result that he was able to don his clothes at the expiry of a week, having been confined to bed on two previous illnesses for seven and thirteen weeks respectively. This gentleman succumbed at last to another attack, complicated with hyperpyrexia, cardiac and pulmonary inflammation. I shall conclude by a reference to a paper published in the "Transactions of the Rhode Island Medical Society," vol. iii., part 2, March 20th, 1884, entitled, "Topical Cardiac Blistering in the Treatment of Acute Rheumatism," by Neal O'D. Parks, L.K.Q.C.P., of Ashton, Providence.

In Braithwait's retrospect for January, 1883, Dr. Alexander Harkin, of Belfast, Ireland, in an article entitled "Some Observations on Rheumatism and Gout, with a new departure in their cure," refers to thirteen consecutive cases of acute and subacute rheumatism, treated by himself and others by a topical remedy alone, without a dose of medicine practically being administered, in which the cure was in almost every instance rapid and complete. Dr. Harkin explains his theory thus:—"If it be physiologically true, that when two parts of the same body are nervously in sympathy with one another, if we produce a powerful effect on the nerves of one, we may draw vital energy from the nerves of the other, then it follows, that when a derivative in the form of a blister is applied to the nearest vicinity to the endocardial lining when in an inflamed state, it is but carrying into effect the principle that counter-irritation is the most effective plan available to alter the excited condition of nerve centres, and so to influence motor, sensory, and trophic nerves. Struck by the force of this reasoning, and the success of the treatment indicated, I resolved to give it a trial. Just then I was treating for acute rheumatism Mr. J. R——, of Ashton, whom, only a few joints being affected, I had treated by local blisters to the joints, and salicin in scruple doses, with carbonate of ammonia every hour. Under this treatment he improved, and in ten days resumed his ordinary pursuits. In a few days a relapse occurred, with pain and swelling of the knee and tarsal joints, and the evidence of an endocardial murmur. I forthwith ordered a blister, five by six inches, over Mr. R——'s heart, with the happy effect of aborting the relapse, all symptoms of which, including the endocardial murmur, quickly disappeared, urine and saliva became alkaline, and the patient has since then had no return of the malady. In the early part of last November I was called to an old lady, who every winter suffered from so-called rheumatic gout, which usually attacks each great toe in succession. On this occasion most of the joints of each foot, and some joints of the upper extremity, including the metacarpo-phalangeal joints of both hands, were involved with the usual accompaniment of great pain, swelling, and high fever. I ordered a blister over the heart, the joints to be anointed with ol. gaultheriae, which also was given internally fifteen drops every two hours. In three days she was able to sit up. As one of the finger joints continued swollen, I ordered another blister, but as the swelling began to subside she did not apply it, and in less than a fortnight she was out in her buggy, handling the reins herself, and to this date has had no symptoms of relapse. A friend who lives in Arlington, N. J., wrote me last spring that he was suffering from one of the annual attacks of rheumatic fever to which he is a martyr. I wrote to have him apply a blister to the region of the heart, and, on meeting him on my return from Europe last September, he told me that he could not have believed it was in the power of any remedy to have afforded such effectual and prompt relief, and he assured me that he has since then felt better in every way than for years previously.

I might multiply cases, but think the above amply sufficiently to warrant me in asking a more extended trial of this treatment upon the part of the profession. I have treated rheumatism by all the approved methods—alkaline, quinine, iodide of potassium, salicin, salicine compounds, blistering the joints, not forgetting calomel and opium, and have never before succeeded in laying the grim spectre of the inevitable relapse, that *bete noir* which was sure to hover around all the time-honoured methods of treatment. A great authority once said that the cure for rheumatic fever was "six weeks." My experience of the topical treatment is too limited to warrant me in more than expressing the hope that the time is drawing nigh when we might with truth exclaim, *nous avons changè tout cela.* It is possible that in the next case I may have to revert to the old dreaded two or three months type, but I must confess that I approach a case of polyarthritis rheumatica much more confidently armed with Dr. Harkin's remedy; and if its efficacy could be established in a large percentage of cases, the boon to suffering humanity would be simply incalculable; and if it should prove as potent in the hands of others as it has in mine (so far), and those of the author of the paper referred to, many an hour of suffering will have been spared, and much good conferred on suffering humanity. This paper having been prepared for the December meeting, I wish to refer to other cases occurring subsequently.

Case 1.—Mrs. M—— was attacked on January 24th, 1884; joints of left foot swollen, red, and painful. Applied to the præcordium a blister five by six inches, anointing joints with lin. camph. co. and ol. gaultheriæ, soda salicyl. fifteen grains, and ammon. carb. five grains every two hours. The following day the swelling was greatly reduced, joints soft and painless, and in two days she was walking about attending to her household duties.

Case 2.—Jas. M. D——, æt. thirty-seven, seen on January 27th, lying in bed in excruciating agony, unable to endure the slightest motion, not even of a person walking across the floor; joints of the right foot, knee, and hip, and the left hip-joint much swollen and painful. Was attacked two days previously, the foot-joints being first affected; pulse 100; temperature 101·6°; tongue foul; anorexia; rough systolic murmur at base of the heart. Blister five by six inches to praecordium; ol. gaultheriæ and lin. camph. co. to joints; salicin twenty grains, and ten every succeeding hour for four times, after that ten grains every two hours. January 28th—All pain gone except a little in the left hip-joint; no swelling; pulse 84; temperature normal; better and easier in every way; continue medicine. January 29th.—Pulse 84; temperature 99.4°; occasional pain in right knee, none anywhere else; profuse epistasis half an hour before visit; a similar attack two years since; feels weak. Continue salicin, with milk, beef tea, etc. January 30th.—Found him walking about the room, free from pain and swelling; tongue still coated; feels weak; heart sounds normal, but impulse feeble; tr. ferri. chlor. ʒ ss. diluted with water four times daily; continue salicin a few days more; blister to be dressed with ol. olivæ. The following week he resumed work, and on February 21st, a damp rainy day, he presented himself at my offce with a suppurating gland in the axilla. February 24th.—Found him complaining of grinding pains in hip in the course of the sciatic nerve pain and swelling in the left knee. Repeat blister and other treatment; temperature 102°; pulse 100. February 25th.—Pulse 84; temperature 99°; profuse acid perspiration; urine acid with copious brick-dust sediment; no pain in sciatic, nor in left knee; swelling gone. February 26th.—Pulse 84; temperature normal; excruciating pain near sciatic notch, and extending down thigh. Injected alcohol and amyl nitrite to back of thigh. February 27th.—Pulse 80; temperature normal; after this, in three days he was convalescent.

Case 3.—February 9th.—Katie A——, æt. eight years, ailing three or four days; left hip and all the joints of right lower extremity swollen and exquisitely painful; could not bear slightest touch or motion; pulse 120°; temperature 99.8°; tongue slightly coated. Ordered blister, three by three to præcordium; salicin ten grains; ammon. carb. five grains; every hour till five are taken, then every two hours; liniment as above to joints.

February 10th.—Much easier; pulse 100; temperature 99°; joints still swollen and painful—continue. Being in poor circumstances, her mother said if not better next day she would send for me; she did not do so. A week after I called, and found the child convalescent; the mother said she improved rapidly from the time I last saw her. On March 1st, the mother brought her to my office, appearing the picture of health.

Conclusion.—I think I have given sufficient proofs of the efficacy of this topical remedy, either alone or in conjunction with internal treatment, as some practitioners are too cautious to rely on it solely. If I have proved its power when given alone, in aborting acute rheumatism, (a remedy that could not possibly modify a diseased condition of the blood, or neutralise an acid poison permeating the system,) what becomes of the hypotheses of materies morbi, hyper-fibrination of the blood or uric acid poisoning, and the treatment dependent thereon. The success of this plan illustrates the truth of the axiom, propounded by Dr. P. Latham: "The treatment of diseases rightly considered, is, in fact, a part of their pathology. What they need, and what they can bear, the kind and strength of the remedy, and the changes which follow their application, are among the surest tests of their nature and tendency."[1]

Special Articles.

BIRMINGHAM SANITARY IMPROVEMENTS.

By Alfred J. H. Crespi, of Wimborne.

When due allowance is made for its immense population and great sanitary difficulties Birmingham is not such an eyesore to the sanitarian as some other large towns. Many of the local manufactures require ample space, and this makes it necessary to choose sites where land is comparatively cheap; moreover, new workshops are constantly springing up in the suburban districts, and from other causes the population of the town has unusual facilities for spreading over a large area. There are still some old, narrow, and filthy streets in the heart of the town, but not nearly as many as twenty years ago, and some in the outskirts are as wretched as anything to be seen out of London and Dublin. Some too, of the newer streets, are not all they should be, but, on the whole, Birmingham compares favourably with most large towns; indeed, I am not acquainted with any— and I know nearly every one of importance in England—which,

[1] Preface to "Lecture on Diseases of the Heart.

in proportion to its population, is not in greater need of sanitary improvements and better house accommodation, while some of the older cities, with only 40,000 or 60,000 inhabitants, have as many slums and fever nests as Birmingham. Exeter, where I once stayed seven weeks at a stretch, and which I have repeatedly thoroughly explored, is in a disgraceful state, and reminds me of Dudley and Oldbury; but even at Exeter they are moving, and a good deal is being done.

After all, these preliminary observations are hardly to the point. It does not signify that Birmingham is not worse than many smaller places, and better than most others of equal size. The question is, whether there are districts in Birmingham, which it would be desirable, in the general interest, to improve away, and from an intimate knowledge of almost every street and road in and near the town, I do not hesitate to say that, comparatively well off as Birmingham is, one-half the houses occupied by the working classes might with benefit be removed and replaced with better constructed and more wholesome dwellings. Even in Birmingham, in spite of rapid and great advance, whole streets ought to be cleared away, and their demolition would be attended with improvement to health and morals, and with diminished pauperism. Bad sanitary arrangements are paid for in increased disease, crime, poverty, and immorality, while well thought out sanitary improvements are always in the long run remunerative.

Extensive alterations in such a great city are impossible unless taken in hand by the municipality, although the movers in such improvements are bound to consult the commercial interests of the inhabitants as well as their health. The demolition of a large and populous district should be primarily undertaken for the diminution of sickness and pauperism, but beautifying the town and opening up better and more direct thoroughfares ought not to be forgotten, nor should an improvement scheme be suffered to drop because it is impossible to remove every fever den, and to open up every narrow street. The Artisans' Dwellings Act has given the municipalities, which have been wise enough to avail themselves of it, ample powers for good. Birmingham, always conspicuous in its zeal for reform, was, as usual, first and foremost, and schemes were soon broached for radically improving a large, old, and miserable district of the town. Mr. Joseph Chamberlain, as Mayor of Birmingham, showed, on many occasions, an earnest and enlightened wish to make his reign memorable in the history of the midland metropolis for useful reforms and much needed improvements. As long as an unkind fate kept him out of Parliament, he had more leisure to give his adopted town the benefit of wise plans and ripe experience, and it is undoubtedly to him, and to him alone, that Birmingham owes the prompt and extensive improvements, which were so long warmly discussed by the town council; and for years Mr. Chamberlain was the prime mover in every great measure.

The alterations talked of were these. It was proposed to cut a wide thoroughfare—a continuation of Stephenson-place, the short street leading direct to the London and North Western station—sixty feet to sixty-six feet broad, from the middle of New-street,—the principal artery of the town—through Union-street, Bull-street, Lower Priory, John-street, Stafford-street, and Moland-street, on to Aston-road, a distance of over a mile; and one or two splendid streets connecting the proposed thoroughfare with other important main streets, were also talked about, while several crooked and narrow lanes, notably Steelhouse-lane and John-street, were to be considerably widened. These improvements were greatly for the good of the town, and they would place the business parts in closer communication with one another. The most important feature of the scheme was, however, that many of the worst courts and lanes would be improved away, and the houses—in nearly all cases dilapidated and unwholesome—of 8,700 working-class people removed. The slums to be demolished covered over forty acres, an area little inferior to that of a small country town. But when once a fashion is set everyone is compelled to follow, and hundreds of houses, which no improvement scheme would have ventured to include, were demolished and rebuilt on a grander scale by their owners.

It is difficult to ascertain accurately the cost of these vast improvements. The estimated original cost of the area proposed to be dealt with was £1,303,221; but, as the Town Council expected that the value of the area, after its improvement, would be £846,262, the net cost would not exceed £461,959, or, say, half a million. Of course, too, the rateable value of the new shops and houses built on the cleared sites would be much higher than that of those pulled down, so that the income of the municipality, would, it was calculated, increase £6,000 a year. We cannot help admiring the care with which these calculations were made, and though amusing to find that a total of £1,300,000 was not considered near enough, nothing short of strict accuracy being tolerated, the figures now laid before the reader may be accepted as approximately correct. I cannot ascertain how much has actually been spent from first to last, but the original estimate must have been exceeded in an almost incalculable degree, and in the long run this cannot fail to be the to the permanent advantage of the town.

Can it be shown that an expenditure of half a million is justifiable, and will the advantages expected result? To both questions there is but one answer: the gain to the town has been immense, and its most strenuous opponents have long since held their peace.

The increased facilities for commerce, and the greater directness of communication will, in a very few years, be worth an incalculable sum, while the diminution of sickness, pauperism, and intemperance, and the fewer facilities for the escape of criminals are, from another point of view worth the money. I question whether Mr. Chamberlain ever proposed a wiser measure, or whether a large sum of money was ever more prudently laid out. Unless something very untoward should occur, it was certain that Birmingham would, in a few years, be busier, wealthier, and healthier, and time has fully confirmed the expectations which the best informed ventured to form. The chairman of the Improvement Committee, Mr. William White, was one of the best coadjutors Mr. Chamberlain could have. Not so brilliant an orator, he is, perhaps, as able a man of business. Respected and beloved throughout the district for his benevolence, sound common sense, and large administrative capacity, Mr. White is one of that class of upright, zealous public men, of whom England has good reason to be proud; men who ungrudgingly give time and thought to the service of their country, seldom receiving anything in return except trouble and expense, even their generous and unpaid labours not always exempting them from the censure of opponents and the jealousy of friends. Fifteen years ago Mr. White looked an elderly man, verging on sixty, but he has worn well, and I can see little change

in his appearance or manner, though no doubt he feels older.

I have said that the proposed improvements involved the demolition of hovels occupied by 9,000 working-class persons; but the original scheme included the building of better houses on the same ground, accommodating double that number. The new houses were to be larger, higher, and more convenient than the hovels they displaced; each was to be supplied with good water, and to have the best domestic offices that money and science could secure, but, fortunately, these palatial ranges of tenements have not been built, and it was found far better policy, as some people expected, to dispose of the land for first class offices and shops. One piece of advice was often pressed on the Improvement Committee:—It was, that Birmingham was fortunately circumstanced in that a comparatively small number of working-class people was obliged to come into a narrow area, in the middle of the town, every day to work. Huge blocks of tenements intercept air and light, and a dense population necessarily pollutes the air more than a scantier one; though there is no truth, as some sanitarians have contended, that the mortality increases in direct proportion to the density of population; were it so, such changes as those proposed in Birmingham would infallibly do harm, not good. Had it been necessary to erect model dwelling-houses, on the improved area, to accommodate three times the former population, there would, even then, have been a marked diminution of sickness and death. Still, speaking generally, it is better to avoid large and overgrown piles of tenements, and immoderate density of population. My own opinion is that a moderate walk, morning and evening, is beneficial to most working-class people. Even the air of Birmingham streets is purer and less unhealthy than that of ordinary workshops and sitting-rooms, and out-door exercise is useful to nearly all classes of workers. But we may safely leave the carrying out of the improvements to Mr. Chamberlain, Mr. White, their colleagues, and the more intelligent portion of the ratepayers of the town. If immense ranges of tenements should at any time be finally decided upon, it will only be because their necessity is undeniable; but with improved tramcars, additional railways, and more direct approaches, the population has spread out and is spreading out enormously, and overcrowding is undoubtedly diminishing. More than fifteen years have sped swiftly away since this magnificent scheme was first broached, and during the whole of that time the work of reconstruction has been going on, and it is still unfinished. Every fresh improvement seems to show that other improvements are needed, while all the alterations first proposed have not been carried out, so necessarily slow is the rebuilding of a great town.

How was the scheme received by the Town Council? On the whole, exceedingly well, and in a manner leaving little to desire. One or two gentlemen were anxious to suggest improvements, unconscious that the changes they proposed would lead to interminable discussions, calculations, and surveyings; others were desirous of pressing the claims of fresh districts, as though matters were not sufficiently complicated; while one or two Councillors—one of them, indeed, *mirabile dictu*, a medical practitioner—offered opposition on various grounds. But so that the Town Council entered heartily into the affair, it signified little what motives influenced some members.

The scheme was a grand and promising one, and was certain to prosper, provided its supporters kept close to the matter, and did not give rise to confusion and complications by making suggestions with little to recommend them, and if the proposed alterations were energetically entered upon and properly carried out. This was done, I am glad to add, and Mr. Chamberlain's long tenure of office will always be memorable for the blessings it has brought Birmingham.

I should be right in saying that no one, who had not seen the middle of the town for twenty years, would be able to find his way about it now. Vast areas have been cleared, reconstructed and opened up; the principal station, always large and worthy of such a town, has had its area doubled; thousands of houses have been swept away; miles of new streets have been cut; stupendous offices and warehouses now occupy the sites once filled by mean and dingy tenements; in short, the changes have been wonderful, and there seems no end to them. Still, all these costly and important alterations have not been improvements. Many of the new ranges of offices, which from the outside look palatial, are, when closely examined, dingy and ill-ventilated; while, though the width of the new streets is great, the buildings skirting them have been carried to such an immense elevation that light and air are much intercepted, and on smoky, foggy, winter days it would be hard to find any sight more depressing than a walk along those new thoroughfares. Unfortunately, the trees planted by Mr. Chamberlain have not resisted the foul air of the town; and the bright red-brick buildings, with snow-white stone dressings, have rapidly lost their freshness; and before many years have passed, some of the new houses will look little less dingy than did their predecessors. But how can this be prevented?

While the heart of the town has undergone such marvellous reconstruction, the suburbs have spread in all directions. Hundreds of acres of fields have been covered with villas and cottages; several additional parks have been presented to the town; and many institutions for the good of the working-classes have been founded. Birmingham has kept well abreast of the scientific and sanitary progress of the age, and has no reason to complain of the vast cost of the improvements. It has a lower sick- and death-rate, less pauperism and less crime, greater contentment, and greater regularity of employment, and every year sees advance in all those matters which increase the happiness and prosperity of its citizens.

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

The modern treatment of Phthisis—Hot air Inhalation—Rectal injections of Carbonic acid—Therapeutic effects of Hydrastis Canadensis—Sulfonal in night sweating—Hydroxylamine — Tetrahydro-β-Naphthylamine — Picrotoxine an antidote of Morphia—A new mercury compound.

With the discovery of the tubercle bacillus, a fresh impetus has been given to all researches tending to throw new light on the question of treatment of phthisis. Indeed, a great number of remedies and cures have since been recommended, most of them with a view to "kill the bacilli." But none of them have lately attracted more attention than the following decidedly original and ingenious method:

Weigert was the first to recommend systematic inhalations

of air heated to a temperature of 350° F. But his publication found little favour, and a Berlin medical society positively refused to listen to one of his papers on the subject.

Professor Kohlschütter, however, has just now published a paper, in which he confirms the exactness of Weigert's theoretical deductions. He says that above all other things, Weigert has in his favour the property of the tubercle bacilli to be more influenced by changes of temperature than any other bacilli; that at a temperature of 38·5° C. they are materially weakened in their vitality, and that temperatures above 42° C. are fatal to them.

Kohlschütter put his patients under a course of Weigert's treatment, lasting seven weeks in each case. Of course he minutely watched the cases, and observed the following changes: considerable expansion of the thorax, so that its circumference increased from 89 to 95½ centimetres. Dullness, abnormal respiratory, and additional sounds disappeared, and a clear normal breathing was heard instead. More important than these favourable changes were the results of the examinations he made for estimating the quantity of bacilli contained in the sputa. Before treatment began there was a great number of bacilli in each cover-glass preparation. After some weeks treatment, of the preparations examined, the second contained none at all; the third perhaps four, etc.—altogether, some thirty. The examination was made very carefully so that no bacillus should be overlooked. He further states, that obviously a complete disappearance of all bacilli after seven weeks treatment cannot be expected; to kill all bacilli, including their spores, with one stroke, is quite impossible. None of the many anti-parasitic remedies at the disposal of the physician are able to do that. But if, he says, Weigert's method enables us to destroy each day a few more bacilli than there are actually produced, we have obtained a weapon against the great foe of humanity much more efficacious than any of those known up to the present time. He therefore thinks, that the method ought to be carefully considered, put to serious test, and not treated with sneering contempt, similar to that which was formerly accorded to hydrotherapy and massage by the scientific world.

With regard to the temperature, the Professor says that though the air in passing out from Weigert's apparatus has really the high temperature stated, that when entering the mouth it is of course somewhat lowered, but that even when exhaled the air has a temperature of 60° C., therefore a height sufficient to destroy the bacilli.

Rectal injections of carbonic acid constitute another modern kind of treatment for phthisis. Some interesting and very favourable results, obtained by this method, are published by Dr. M. Oliven in the *Therapeutische Monatshefte*. He comments on the property of the intestinal tract to readily absorb great quantities of irrespirable gases, especially of carbonic acid. When these gases have been introduced into the rectum, they are soon absorbed, and by the circulating blood carried to the lungs, where they are again removed from the body, becoming mixed with the ordinary expiratory air. The process forms a ready means by which powerful and equal action on all parts of the lungs is secured. But up to the present the method has found few supporters, partly for the reason of its complexity. This latter drawback has just now been overcome by making use of the ordinary fluid carbonic acid, which is sold in strong iron flasks, allowing the escape of a small and accurately measured quantity of gas.

For applying the injection Dr. Oliven recommends the following *modus procedendi:* The rectum is first evacuated by an ordinary warm water enema, then the patient is placed in a recumbent posture; a soft india-rubber catheter is introduced some inches up the rectum, and by bringing the apparatus into communication with the catheter, a certain amount of carbonic acid is introduced; the quantity of gas can be regulated by screws, and exactly measured by a manometer attached to the apparatus. He introduces as much as the patient is able to bear. As soon as the latter complains of a feeling of great tension, the inflation is stopped, and the *séance*, which on an average lasts from three to four minutes, is terminated. During each *séance*, from two to four litres of gas were introduced.

As regards the results of this treatment, the author states that fever decidedly abated, the temperature becoming normal, appetite and general health of the patients were much improved, and the distressing night-sweats diminished or entirely suppressed. He, therefore, confidently recommends the said method.

The same journal contains some very interesting therapeutic annotations by Dr. Böttrich, of Hagen. Speaking on the treatment of *Hæmoptoë*, he found opium, with acetate of lead, the most efficacious when the bleeding has just set in. It combines the action of hæmostasis and diminution of the cough. After two or three days he gave instead hydrastis, which drug he ordered from the beginning when the hæmorrhage was only slight. It had mostly a very decided effect. In one case of hysteric hæmoptysis its administration entirely stopped hæmorrhage after the first week. Also in cases of frequent bleeding from the nose hydrastis proved very serviceable, not against a single attack of profuse epistaxis, but against repeated recurrence of the bleeding. In such cases he has used the drug for the last two years, and he is very satisfied with the results.

Speaking on the action of *Sulphonal*, Dr. Bötrich says that a dose of eight grains was in most cases sufficient to entirely stop night-sweating. In this respect it equals the action of atropine, and has the advantage of being absolutely free from any unfavourable secondary effects.

Of late some new additions have been made to the long list of pharmaceutical preparations. *Hydroxylamine* is one of them. It is used in different skin affections as a substitute for chrysarobin and pyrogallic acid. Similar to those it has highly reducing properties when brought into contact with O-carriers. Its medicinal use was first proposed by Professor Binz, and first practically applied by P. T. Eichhoff, whilst it is known as a chemical substance ever since 1865, when Lössen obtained it by reducing nitric ether of methylene with granulated tin. Hydroxylamine is a strongly alkaline substance, which, combined with acids, forms well-crystallised salts. In a free state it is only known as watery solution. Its chemical formula is

$$N \begin{cases} OH. \\ H. \\ H. \end{cases}$$

which shows that it derives from ammonia, in which one atom of hydrogen is replaced by hydroxyl.

Hydroxylamini hydrochloras, or

$$N \begin{cases} OH.\ HCl. \\ H. \\ H. \end{cases}$$

is obtained by adding hydrochloric acid to the solution in

water. It consists of colourless hygroscopic crystals, soluble in water, alcohol, or glycerine. The solutions turn blue litmus-paper red, but leave Congo-paper unaffected.

Eichhoff used the following formula :—

℞ Hydroxylamini hydrochlor. .... gr. ii.
Spirit vini.
Glycerin. .....āā ʒ ii.
S. for external use.

After preparatory washing of the diseased parts of the skin with soft soap, this solution was applied from three to five times a day. It has been proposed to use ointment as a base, but the formula above is to be preferred, as the alcoholic solution penetrates the skin much more rapidly than ointments. The author has tried hydroxylamine in the following skin diseases :—Ringworm, sycosis parasitaria, and lupus vulgaris. Especially with lupus his results have been excellent. He furthermore thinks cases of psoriasis and chronic parasitic eczema suitable for the hydroxylamine treatment. He strongly advises further trials and experimenting with the new remedy, which has the advantage of combining cheapness with usefulness.

Not only Eichhoff, but also in the Vienna clinics an ointment of the following composition is employed :

℞ Hydroxylam. hydrochlor. ..... gr. ii.-viii.
Lanolini ..... ʒ iv.
Ol. olivæ ..... ʒ ss.

Another compound lately recommended as a therapeutic agent is the salt of tetrahydro-β-naphthylamine, which has the formula $C_{10} H_7 O_4 NH_2$. Filehne has used it as a 1-5 per cent. watery solution for instillation into the eye. It produced dilatation of the pupil, first of the eye where the solution had been used; after a short time also, the other pupil dilated, and the amount of mydriasis is said to be even more considerable than with atropine.

MONTHLY REPORT ON NEW PREPARATIONS,

FOODS, DRUGS, INVENTIONS, ETC.

Christia.—For some years Messrs. Christy & Co. have been working at a material (which they called christia) for replacing oiled silk, indiarubber or guttapercha tissues, etc., for the purposes of surgical bandages, sheets and plasters. The material consists of a thin, soft, and flexible tissue, prepared by a patented process, and, as will be seen from the following figures, it has in weight and in resistance great advantages over such substances as those referred to above, which cause sweating of the parts, and often induce irritation of the skin not less difficult to deal with than the ailment itself :—

Weight.—A bandage 11 feet long by $3\frac{3}{4}$ inches wide, ready for use, weighs one ounce.

Resistance.—A piece of christia 19 by $3\frac{1}{2}$ inches will bear a strain of 25 lbs. weight tied to it.

The stickiness of oiled silk and the rotten short fibre of gutta, to say nothing of the expense, are entirely overcome. It will be seen that christia is, from its lightness and strength, eminently suitable for bandages, surgical sheets, plasters, and waterproof linings or coverings. As an antiseptic or medicated bandage, owing to its power to absorb such antiseptics and remedies as carbolic, boracic and salicylic acids, potassium silicate, iodol, sozoiodol, iodine, etc., it is unique. Christia will prove a useful introduction in surgery, as it can always be kept handy in accident wards, ambulances, and dispensaries; it is strong, and of a minimum weight and bulk. It will be of service in the treatment of ulcerated or sore legs, which are so frequent with out-patients. The bandages will be rendered porous, so as to avoid the ill effects noticed with oiled silk and indiarubber tissues. Carbolized christia bandages have been submitted to several English hospital surgeons, and to army surgeons in Germany, France, and Austria, who pronounce it to be one of the most important and valuable introductions of the period in surgical bandages, and resulting from the opinions thus gathered, several forms of christia have been suggested, such as a combined bandage of christia and lint soaked in boracic acid; plasters and surgical sheets for operations. A series of samples can be obtained by surgeons attached to London and provincial hospitals, as well as by any surgeons who may desire to test this new advance in bandages and sheets. With regard to the name christia, it refers exclusively to the material, as far as it is made according to the patent, and that it will be described according as it is saturated, as carbolized christia, salicylic christia bandage, sheet or plaster.

Clinical Cases.

THE BINIODIDE OF MERCURY IN OBSTETRIC AND GENERAL PRACTICE.

C. R. Illingworth, M.D., M.R.C.S.

Puerperal Septicæmia and Peritonitis existing for seven days without treatment. Cured in four days with Biniodide of Mercury.

A. I—— was confined on January 20th, 1888. Forceps were used and the perineum was torn so that wire sutures were needed. On the 22nd or 23rd the nurse noticed that the lochia were offensive and used a vaginal douche of Condy's fluid. Sutures separated on fourth day. On the 24th there was intense pain in the hypogastric region and tenderness on pressure. Vaginal douche continued daily. No sleep since confinement. The pain continued and the patient got worse. Treatment directed to relieve biliary mischief and colic. On the 30th an anodyne draught given, as no sleep had been yet obtained. Some sleep obtained, but general condition the same. On the 31st I was called in consultation. There was marked cachexia; pulse 120, temperature 102.2° at noon, and great pain and tenderness on palpation in the pelvic region. I diagnosed puerperal septicæmia with consequent para- and perimetritis. The biniodide in sodic iodide of the strength of 1 to 2000 was at once injected into the vagina, the os being too contracted to admit the passage of the vaginal pipe to the fundus. The pain left at once and never returned. February 1st.—Had a fairly good night, sleeping at intervals. 9 a.m. Temperature 100°, pulse 100, respiration 20. 2 p.m. Temperature 100°. 5-30 p.m. Temperature 103.5°. Has no pain and feels well. 7 p.m. Chloroform; Sim's speculum passed; anterior lip seized with vulsellum forceps, and a No. 6 catheter passed for the purpose of syringing to the fundus by means of a Higginson attached with indiarubber tubing. Speculum revealed sloughing ulceration of the cervix, and brownish muco-purulent discharge from the os uteri. 9-45 p.m. Temperature 101.5°, pulse 112, respiration 23. Had an hour's sleep.

February 2nd.—1 a.m. No pain; Respiration 20. 4-40 a.m. Slept three hours and a half; temperature 98.4°; much refreshed; no pain; pulse 88, full, strong, and regular. 10-15 a.m. Temperature 103°. Chloroform given and injection used again, but not so successfully owing to the catheter slipping. 12-15 p.m. Evacuation of bowels helped by pressure of patient's hands on the lower part of the abdomen without causing pain. 3 p.m. Temperature 103°. 6 p.m. Has no pain and feels well; temperature 103.2°; operation repeated. The lotion smarted very much for an hour and a half afterwards. 9 p.m. Perspiring freely for first time. 9-30 p.m. Temperature 100°, pulse 100, respiration 24. 11 p.m. Temperature 99.2°, pulse 98, respiration 20. February 3rd.—1-15 a.m. Has slept; respiration 16, pulse 88, temperature 98°. 7 a.m. Respiration 16, pulse 88, temperature 98°. Slept soundly. 9 a.m. Slept since 7 a.m.; temperature 99.2°, respiration 18, pulse 98. 11 a.m. Temperature 103.5°, respiration 24, pulse 128. Injection of biniodide repeated in the same way, but again only with partial success from the same cause as before. 5-30 p.m. Temperature 102°, pulse 116, respiration 20. 9 p.m. Injection again, when a larger instrument—one of Mr. Allingham's double-channel catheters—was passed, and the strength of the lotion used was 1 in 3,000. Temperature before syringing, 100.4°. Smarting very severe, but immediately relieved by a solution of cocain applied with a brush to the os. At 11-30 p.m. Temperature 98.8°, pulse 104, respiration 18. February 4th.—3-15 a.m. Temperature 98°, pulse 100, respiration 18. Sleeps soundly and perspires freely. 6-45 a.m. Has slept soundly; temperature 98°, pulse 96, respiration 21. 2 p.m. Temperature 98.2°, pulse 108, respiration 17. Vaginal douche of 1 in 5,000 used. 8-30 p.m. Temperature 98.8°. Vaginal douche repeated. In comparing the effects of the intra-uterine injections, it is seen that in the incomplete ones the temperature was not thoroughly reduced; whilst the third complete one had the effect of permanently reducing it after two successive reductions to the normal, with a duration of fifteen hours before recrudescence.

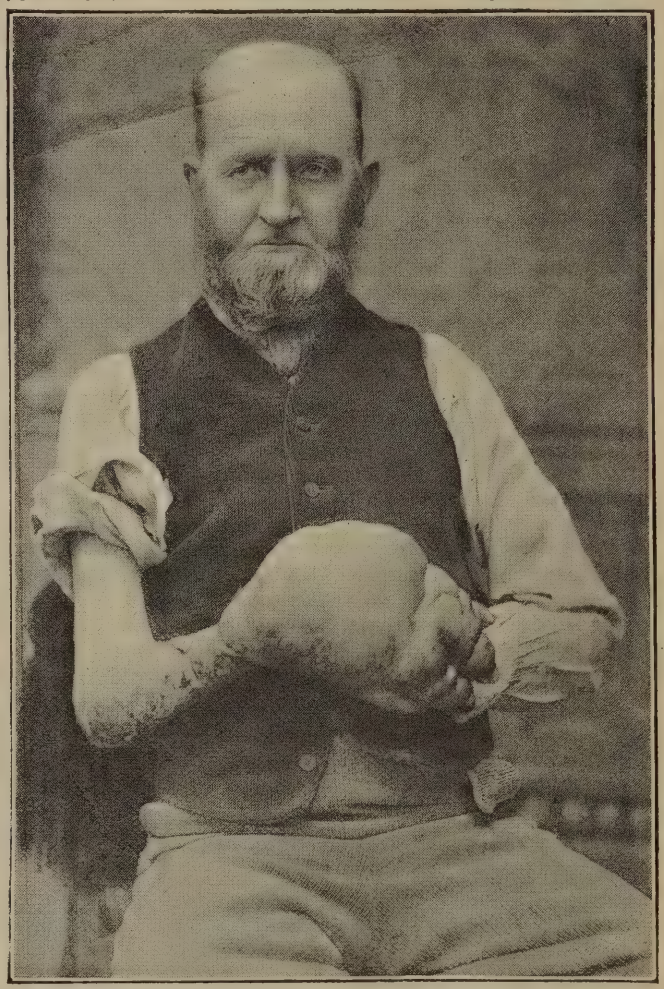
The diet was one of milk and barley water at intervals of two hours, and lemon water *ad libitum*. Medicine:—Four minim doses of the strong perchloride of iron, and two grain doses of chlorate of potash every two hours. The biniodide lotion is prepared as follows:—To six ounces of the B.P. liquor hydrargyri bichloridi, add forty minims of a 1 in 4 solution of the iodide of sodium. This gives a clear solution of the biniodide of mercury in the iodide of sodium, of the strength of 1 in 1,000. To this add a large teacupful of warm water at the bedside, and you have a solution for injection of the strength of about 1 in 2,500.

Remarks:—With ordinary antiseptics, such as carbolic acid, Condy's fluid, etc., this case, even if a cure could have been affected at so late a stage of the disease—which I much doubt—would have needed douching twice a day to the fundus for several weeks. The Laboratory Reports of the Edinburgh College of Physicians, contain in vol. i., February 5th, 1889, an account by Dr. Woodhead of experiments confirmatory of my statements regarding the biniodide, and the value of its solutions in the treatment of specific febrile disorders. But the sodic solution is superior to the potassic form used by Dr. Woodhead, because of the more penetrating properties of the sodium salts, due to their greater deliquescence. A spray of 1 in 2,000 is useful in diphtheria and scarlet fever throats. A lotion of 1 in 3,000 rapidly cures chronic discharges from the ear, and acute septic discharges from the eye, such as ophthalmia neonatorum. Other uses of the drug, since I first named the subject on May 1st, 1886, in the columns of the *British Medical Journal*, are mentioned in my work on the biniodide, published by Messrs. Lewis, 1888.

ELEPHANTIASIS OF THE ARM FOLLOWING A SEVERE BURN.—CASE OF HYPERTROPHY OF THE TOE NAILS AND LOWER EXTREMITIES.

By Wm. Berry, F.R.C.S.I.,
Honorary Surgeon Royal Albert Edward Infirmary, Wigan.

Case 1. *Elephantiasis of the arm following a severe burn.*—This case I saw in consultation with my friend, Dr. Tatham, the late Medical Officer to the Wigan Workhouse and Union. It occurred in a man æt. sixty years, of a feeble, pasty, cachectic appearance, and with albumen in his urine. Twelve years before, he had met with an accident, and burned his hand and forearm. It had suppurated for a long time; and as it gradually healed, enlargement and hypertrophy of the tissues commenced. Amputation had



been previously proposed, but this he refused. He was told this was his only chance of life, and notwithstanding his albuminuria, we decided to remove it, if he consented. After a few days consideration, he gave his consent; and in the meantime he had been put on a liberal diet, with a stimulant. Assisted by myself and my brother-in-law, Dr. Tatham removed the arm at the junction of upper with

the middle third, this being necessitated by the skin above the elbow being implicated. The man was very feeble for a few days, although there was not much blood lost, but

he rallied and recovered, the wound healing almost by the first intention. The pathological specimen was sent by Dr. Tatham to adorn the museum of Owen's College.

Case 2. *Case of Hypertrophy of the Toe Nails and Lower Extremities.*—This case came under my care in the wards

of the Royal Albert Edward Infirmary, Wigan. She was seventy-two years of age; had suffered for nine years from ulcerated legs, and been unable to walk about much, having lived by herself in a little cottage all this time, and seldom gone out. We put her on generous diet, and kept her in the horizontal posture for seven weeks, when she was discharged without any improvement.

A CASE OF EXOPHTHALMIC GOITRE; IMPROVEMENT.

By William H. Pearse, M.D. Edin.,
Senior Physician Plymouth Public Dispensary.

Mrs. A. H——, æt. twenty-eight, came for advice on January 23rd, 1888. Her appearance was most remarkable, owing to the extreme projection of the eye-balls. She dreaded going into the streets, from the constant observations of passers-by. She had a large goître, affecting both lobes of the gland. The goître and prominence of the eye-balls had existed for about a year. Three months prior to the onset of the eye-ball and thyroid affections she had an attack of quinsy. Up to four years of age she lived in one of the lodges of Mount Edgcombe Park, close to the sea; from thence she removed to Bungay, in Suffolk, where she lived ten years, leaving that place for Battersea, where she lived five years.

She had chorea during a period of three months when fifteen years old. She thinks that the eyes were prominent during the time she had chorea. The menses commenced at sixteen, and have been always scant and irregular, being absent sometimes for six and twelve months. At nineteen she returned from Battersea to Mount Edgcombe Park, where she lived a year. From that time to the present she has lived in Devonport and Stonehouse, with good hygienic surroundings. Two months after her return from Battersea her menses stopped, and her neck began to enlarge; her eyes became prominent, and remained so for ten months; the menses remained absent during the same period. She had medical treatment, and the protrusion of the eyes disappeared. She then married, when twenty years old. Had a miscarriage fourteen months after; was confined of her first living child two years after marriage. Up to the present time she has had three children. The eyes kept well until after the birth of her third and last child, two years ago. During the past four years she has suffered much from neuralgia in the head, face, and teeth. These attacks of neuralgia usually followed shiverings, which were associated with and followed by heats—such agueish-like attacks of shivering, heat, and neuralgia, happened every three or four months.

Viewing the history of the case, I could see but two main paths in her past—one was the want of vital energy, which was demonstrated by the scant and often-absent menses; the other was the possible influences of what we call "malaria," she having lived, from four years of age to fourteen, in Suffolk, and from fourteen to nineteen, in Battersea, both regions having a past history of prevalence of ague. Medical men who have lived in Bengal, Guiana, the West Indies, etc., will feel a wide expectancy as to the forms in which "malaria" (so-called) may result—*e.g.*, I have as surely seen herpes alternate with ague as that I have seen neuralgia follow ague; or again, I have seen diarrhœa, of many years' standing, in men who had lived in India, Lombardy, or Equador, cured by a treatment in which quinine was the main agent. Though the patient had never had ague in Suffolk or Battersea, it seemed just

to view the case as one in which a "malarious" (whatever may be the exacter meaning of that word) influence existed, and in a constitution of deficient vital energy. I use the words "vital energy" as implying the deficient evolution of the sexual function; and in speaking of the sexual function, we must follow Darwin—that the sexual function does not mainly lie in the sexual organs, but is pan-diffused throughout the "gemmules" of the whole system. The woman was, otherwise, of good physique, and of energetic mind and habits.

Under all the circumstances I gave her, once a week, a ten-grain dose of quinine dissolved in muriatic acid, and prescribed

℞

Quinæ Sulph.	gr. xl.
Liq. Ars. Hyd.	m.c.
Acid Muriat. dil.	ʒv.
Aq. ad.	℥x.

misce.

To make twenty doses. One dose to be taken three times a day after meals. Also half an ounce of cod-liver oil, daily, at bedtime.

At the end of four weeks the eyes became less prominent. There was ringing in the ears. The weekly dose of quinine was then reduced to five grains, but the mixture was continued. At the end of six weeks the eyes were almost, if not wholly, normal, and have so remained. The goître also lessened greatly, coincident with the improvement of the eyes. There is now a marked irregularity of the cardiac rhythm, but without bruit; this did not exist in January, 1888.

I do not venture to form any positive opinion as to the etiology of the disease in this case, or as to the value of the treatment; but I have thought the case worthy of record as illustrating the wide and generic relations of disease; and it may be, of opening up a part of the field of the pathology of exophthalmic goître.

Reviews.

Transactions of the Royal Academy of Medicine in Ireland. Vol. VI. Edited by Wm. Thomson, M.A., F.R.C.S., Dublin: Fannin & Co. 1888.

The goodly volume now before us, containing some five hundred octavo pages of well printed matter, may be regarded as being fairly representative of the work carried on by the profession in the sister isle. We may say at once that the work is carefully edited, that it is well printed on good paper, and that while eminently readable, it forms a solid contribution to the scientific work of the year. Amongst the numerous articles by various observers it would be hard to point to one which does not either add something to the ever-growing stock of medical knowledge, or present matter already known in a new or impressive form:—

"What oft was thought, but ne'er so well expressed."

From such a wealth of material we can manifestly select for reference only what seems of more than ordinary interest.

In the section of medicine Mr. Kendal Franks records a case which is a valuable addition to our knowledge of cerebral localisation, and which establishes the author's reputation as a careful clinical observer. The patient, a lady, was found after death to have been suffering from a cyst in the posterior part of the left tempero-sphenoidal lobe. Her symptoms were mainly epileptiform convulsions, transient "amnesic" aphasia, which seems to have been of the motor kind, and left-sided headache. There was also some amblyopia in the right half of the field of vision, which Mr. Franks ascribes to paresis of the external rectus, but which was more probably a partial hemiopia. Slight paresis of the right orbicularis palpebrarum, and of the right side of the face, were the only other localising symptoms; and in the present twilight of our knowledge we must commend Mr. Franks's decision, not to operate with such imperfect evidence of the seat of disease. In the light of the necropsy, we may clearly see that the aphasia, hemianopia, and paresis of the face were effects of the distal pressure of the cyst on the cortical centres around the fissure of sylvius; and should a case present a similar combination of symptoms at some future time, the experience of Mr. Franks's case might justify us in performing an exploratory operation.

Mr. C. J. Nixon points out that the prognosis is not inevitably unfavourable in cases with symptoms of spinal sclerosis, and that, whatever opinion we may form as to the real nature of the lesion, such cases not unfrequently end in complete recovery.

Dr. J. F. Knott records a case of purpura hæmorrhagica distinctly inherited, and ending by fatal epistaxis. He also contributes a paper on "The Fever of Over-exertion," which deserves a careful study, and whether we agree with the author's views or not, offers us much food for reflexion. The form of fever here spoken of is not described at any length in the ordinary text-books, but, according to Dr. Knott, is not uncommon in the rural parts of Ireland, and frequently ends fatally. At harvest time a man, who has been for months without employment and underfed, works at high pressure for several successive days to save the crops while the weather holds up. The unwonted exertion is followed by a feverish condition, the man is compelled to lay up for a day or two; but the call to the harvest field is imperative, and he returns to work while his temperature is still perhaps as high as 101°. The fever, which would have subsided after a few days' rest, becomes persistent, the pulse is permanently quickened, the usual symptoms of pyrexia become established. Gradual wasting sets in, the patient is confined to bed, and hectic supervenes. There is no ascertainable organic disease as a rule, but should there be any hereditary weakness of the lungs, phthisis may appear. The symptoms progress, and death ensues a year or more from the onset of the attack. Dr. Knott's view of the pathology of this condition is shortly as follows. The prolonged exertion that ushered in the attack threw into the blood a large excess of the products of muscular waste, which are powerful stimulants of the vaso-motor nervous system. The first effect of these products is to stimulate the vaso-motor centres, and cause contraction of the vessels, and if the mischief stopped there, no permanent harm would be done. But the supply of waste products is continued; the exertion, the *fons et origo mali*, is persevered in, and the continued stimulation of the vaso-motor centre leads to its exhaustion and paralysis. Vascular dilatation accordingly ensues throughout the muscular area; the undue supply of oxygen leads to accelerated combustion, and the consequent disengagement of heat overpowers the heat-regulating nervous apparatus of the body—the most unstable part of the

nervous system—and pyrexia is established. The author highly recommends the use of the organic acids in the form of grapes, and acid fruits in the treatment of this and other fevers, believing that they aid the elimination of the waste products of tissue metabolism. The Dublin school is justly celebrated in all that concerns fevers, and any suggestion for their treatment from that quarter will receive a respectful hearing from the profession.

Dr. James Little, whose infinite resource in the field of therapeutics is alike the admiration and the despair of his pupils, gives a valuable note on the use of saccharin as an antiseptic in chronic cystitis. His note on the treatment of migranous headache is also useful; but the administration of salicylate of soda for that condition is not original with him, having been recommended by Dr. Lauder Brunton in the Lettsomian Lectures for 1885.

Mr. Conolly Norman gives a graphic description of a case of Grübelsucht, a rare mental disease, in which the patient is possessed by an uncontrollable impulse to examine and investigate minutely every trifling object he meets with. We may say of the section of medicine that it maintains a fair average, but presents nothing of magnitude, either as regards the matter or the method.

The section of surgery is fully abreast of the times, and sustains the deserved reputation of the Dublin School in that department. Cerebral and abdominal surgery, which take so prominent a position in the present day, are well represented. An important case of mastoid and tympanic disease is related, in which Mr. J. Dallas Pratt successfully trephined, so as at once to lay bare the *dura mater* and open the mastoid cells, a method of procedure introduced by Mr. Wheeler, of Dublin. In this case perfect recovery resulted, along with the restoration of hearing. Sir Wm. Stokes, Mr. W. Thornley Stoker, and Mr. C. B. Ball, contribute each a case of successful operation on the cranium, showing the degree of precision possible in diagnosis, and the skill and courage of the operators. As a comment on these cases, we would lay special stress on the case related by Mr. Mayne, where, during the course of pyæmia, the patient was attacked by all the symptoms characteristic of abscess in the motor area of the cortex. No operation was attempted beyond trephining the mastoid cells, which led to no direct result, but the patient made a perfect recovery. Mr. M'Ardle's account of his case of enterectomy and enterorrhaphy is a monument of courage and manipulative skill, and deserves to be in the hands of every operating surgeon, who will find in it the fruits of the best and most recent labours in the field of abdominal surgery.

In the section of obstetrics, Dr. Kirkpatrick adds his mite to the vast store of learning that has been expended on the vexed question of the management of the perineum during labour. The proverbial difference of doctors here finds an apt illustration. Dr. Kirkpatrick quotes some dozen authorities, each of whom gives his own peculiar view as to the treatment that should be adopted, ranging from a policy of absolute non-intervention on the one hand, to, on the other hand, an officious meddling with the perineum which might well bring about the laceration we desire to avert. We are disposed to infer from this that—as in the other processes of labour, so in this—unaided Nature may generally be trusted to take care of the structures; but Dr. Kirkpatrick has adopted a method of his own for protecting the perineum, which he thinks yields more successful results than the others. As, however, the twelve authorities above referred to would probably say the same of their methods, we do not think it necessary to burden the mind of the busy practitioner with this one.

The section of pathology contains, among many interesting contributions, an account of a fatal suicidal wound of the heart inflicted with a pin. The pin was about $1\frac{1}{2}$ inches long, and was driven down to the head through the fifth intercostal space at the point of greatest impulse, and left *in situ*. The movement of the heart caused extensive laceration around the puncture, and death resulted from hæmorrhage into the pericardium.

Perhaps the most important contribution in the whole volume, and the one that will hold its place longest in the annals of medicine, is the account given by Dr. C. Y. Pearson of the medical aspects of the Coachford poisoning case, which will probably be familiar to most of our readers as the Cross case. It will be remembered that Surgeon-Major Philip Cross, of Shandy Hall, was convicted in 1887 of the murder of his wife by the administration of arsenic. Dr. Pearson was the principal medical witness for the prosecution, and made a *post-mortem* examination of the body of the deceased seven weeks after death, when, owing to the antiseptic properties of the poison, decomposition was no more advanced than if death had occurred a day or two before. Ulceration of the stomach, generally regarded as one of the signs of arsenical poisoning, was entirely absent. The chemical processes carried out by Dr. Pearson, by which the presence of arsenic was demonstrated and its amount estimated, are circumstantially narrated, and the case is a model of the way in which a medico-legal investigation of this kind should be conducted.

Before taking leave of the volume, we cannot help drawing attention to the beautiful dissection by Dr. Brooks, figured in a plate near the end, and illustrating the distribution of the nerves in the dorsum of the hand. From this dissection it appears (as we have had occasion to suspect from clinical observations) that the nervous distribution is not nearly so simple as it is generally represented to be, but that the radial and ulnar nerves interlace, so that it is only near the outer and inner borders of the hand that the nervous supply is single.

T. R. Bradshaw, M.D.

Elements of Histology. By E. Klein, M.D., F.R.S. pp. 368, small 8vo. London: Cassell's. 1889.

Looked at from the point of view of size or weight, this must be spoken of as a *little* book; but considered with regard to its contents, it can only be looked upon as a large and comprehensive volume. It will not be entirely new to some of our readers, since it is a new and enlarged edition of a manual that has gone through several editions, bringing up the researches of histologists to the level of the present time. The author observes, in his preface: "The time has now arrived when, owing to the constant progress in histology, several points have become clearer and considerably advanced. Thus in the question of the division of the nucleus, then of recent origin, many valuable and exact observations have brought this to a much better understanding. Likewise the termination of nerves in the epithelium and epidermis seems to become more settled. . . . The termination of nerve fibres in striped muscular tissue has, by Kühne's recent researches, been considerably

advanced; and in the chapter on the structure of striped muscular tissue, I have adopted Rollet's recently published views." New and original illustrations have been added, including also 194 micro-photographs by Mr. Andrew Pringle. Without these illustrations it would be a matter of impossibility to follow the text; but, with their help, the structure of each tissue becomes clear to the reader. A copious index affords a ready reference to the histology of every tissue and organ, and presents at the same time a complete glossory of the scientific terms which have necessary become multiplied with the advances made in the anatomical sciences. Students of human histology have much reason to be thankful to Dr. Klein for this exposition of researches by himself and other investigators.

W. Kesteven, M.D.

The Essentials of Physical Diagnosis of the Chest and Abdomen. By J. Wallace Anderson, M.D.

We scarcely think the excuse made use of in the preface, and which the author puts forward as the reason for his production of this little work, was needed. Whether there be other such guides in existence, we are distinctly of opinion that there is room for the work now before us. The physical signs of disease, as they present themselves to such a man as Dr. Anderson, and described in his own words, cannot fail to be valuable not only to the medical student, but to the medical practitioner. Dr. Anderson evidently possesses an acute sense of hearing; but we doubt whether all men are similarly endowed; and while he rather deprecates the various means, such as pleximeters and double stethoscopes, which men not equally endowed with himself find it advantageous to use, and urges the use of the ordinary tube stethoscopes and the fingers, we fancy that he does not make sufficient allowance for different degrees of auditory power. Possibly there might be some improvement in the value of the work to the student and to the practitioner if a little more had been said as to the use of the stethoscope in abdominal examination—*e.g.*, in pregnancy; but on the whole the book is most valuable, and we cannot help thinking that if other medical teachers of mark were to publish similar works, each giving his own ideas, educated by long experience, as to the nature and cause of the various phenomena met with in the physical examinations of the human body, that the profession as a whole would gain thereby. W. H. K.

The Treatment of Lateral Curvature of the Spine, with Appendix on the Treatment of Flat Foot. By Bernard Roth, F.R.C.S. London: H. K. Lewis. 1889.

In this monograph and appendix of fifty-six pages are embodied the views of the author on the causation, diagnosis, and treatment of these troublesome deformities. Those who have read Mr. Roth's article on "Lateral Curvature of the Spine" in Heath's "Dictionary of Surgery," and also his papers on the same subject in the *British Medical Journal*, the *New York Medical Record*, and the Clinical Society's *Transactions*, will find little that is new in this volume; but our daily experience teaches us that, although Roth's views have been before the profession for several years, there is even yet a large number of practitioners who still pin their faith solely to the teachings and practice of the old "spinal support" school, and to this class in particular we would strongly recommend this book. There is another and even larger class who would profit by carefully studying Roth's writings—viz,, those practitioners who meet with cases of lateral curvatures at their earliest onset, and who advise friends that the patient will grow out of the deformity in time. It is quite certain that lateral curvatures of the spine can be cured only where there is no osseous deformity, that is in its early stages, during the period of what Roth calls "postural deformity." Although the title of the volume comprises treatment alone, there are suggestive pages on causation, mode of examination, symptoms, and diagnosis. Weakness of spinal muscle is the predisponant, and the position of writing, as generally practised, is the most frequent exciting cause. Rickets, or anything which weakens the muscular system, tends to produce lateral curvature. All cases may be arranged in two large groups, quite irrespective of their causation—namely (1) those without any osseous deformity of the ribs or vertebræ, shortly the "postural stage;" and (2) those with osseous deformity—"osseous stage"—which may be conveniently sub-divided into (*a*) slight, (*b*) moderate, and (*c*) severe, or extreme. Every case of lateral curvature, with the exception of those with extreme osseous deformity causing complete fixation of the vertebræ, presents at least two erect postures: one when the patient is in his habitual position, and the other when placed in the best possible position by the surgeon. It is with regard to the latter that accurate observations only can be made as to the effects of treatment. "The only rational and really successful treatment of lateral curvature," says Roth, "is that which I have the honour to advocate—that is, re-education of the muscular sense of the best possible position, and methodical exercises of the muscles to enable the patient to maintain this improved position without effort, or, to put it more shortly, 'treatment by posture and exercise.'" A committee specially appointed to enquire into this malady by the Clinical Society of London reported, about two years ago, that "the amount of improvement which may be hoped for in any given case may not unsafely be gauged by the improvement which the patient can voluntarily effect (directed or helped by the surgeon) in his or her position when first seen." The principles which underlie the method of treatment advocated by Roth may thus be summarised: (1) Re-education of the patient's muscular sense as to an erect or improved position. (2) Improved position to be maintained at all times while sitting or standing. (3) Attention to dress. (4) Systematic training of the spinal and other muscles, including the development of the thorax. (5) Attention to general health. (6) Subsequent home treatment to prevent relapse in the improvement or cure that has been obtained by the surgeon. One of the essentials of Roth's treatment is that the surgeon himself should carry out certain of the daily exercises, and this, we think, constitutes the difficult feature in the method. The majority of patients cannot possibly obtain such daily attendance, neither can the majority of practitioners find time to give them. It is the rich few only who can afford the luxury of a three-months' residence in a surgical home, and in our opinion it is very rarely necessary. We have obtained excellent results by a judicious arrangement of periods of rest, regular gymnastic exercises, and some kind of mechanical support—a combination of agents precisely similar to those adopted in the treatment of any other deformity depending primarily on muscular debility. We agree with Dr. Roth in condemning the practice of trusting to instruments alone in the treatment of "scoliosis," but we differ from him when

he says that they do absolutely no good except in cases of curvature due to "paralysis of spinal muscles."

The observations on the association of flat-foot and lateral curvature are interesting, and well deserving of our careful attention. The book is enriched by photographs of cases and diagrams of osseous deformities. JORDAN LLOYD.

Short Notices.

De L'Origine et de la fin de la terre et de l'homme. By JEAN CROCQ, junior (*illustrated*).

AMONGST the leading doctrines of contemporaneous science, none is more wonderful or more suggestive than that of evolution. The idea of evolution may be discerned in the writings of the philosophers of antiquity, and the science has been built up by Lamarck, Darwin, and Hæckel, on a foundation which consists of an enormous aggregate of scientific observations. It has become the basis of a general philosophy which explains the universe, animated nature, and every manifestation of human activity, from the scarcely articulated language of the barbarian to the highest conceptions of the thinker; from the rudimentary customs of savage tribes to the complex social life of civilised nations. The young author treats in this work of all that is essential in the doctrine of evolution, and he condenses in a few pages the huge array of arguments which different sciences bring to support the theory of a perpetual future: astronomy, geology, biology, embryology, paleontology, etc. M. Crocq differs from the well-known genealogical classification of Hæckel and as an alternative provides a classification of his own, to which he invites the attention of the scientific. His work, however, is not addressed exclusively to the scientific world, but also to the general public for all is lucidly explained. The treatise may be commended from every point of view, and should have a wide circulation. H. R. H.

Travaux d' Obstetrique. By DR. AUVARD.

THE author, who is gifted with remarkable powers of explanation, and whose literary style is most agreeable, has compiled an excellent work in three volumes. The first volume is devoted to a series of memoirs collected from various sources, most of which may be met with in other treatises. The second volume contains some interesting original matter, such for instance as the relations of the puerperal condition to obesity and the influence of suckling on the obese. Contrary to the generally received opinion, Dr. Auvard holds that it is the posterior shoulder which is first born after the head in natural labour, and when it is necessary to assist the birth of the shoulders the first to be brought down is that which is situated posteriorly. In the chapters devoted to the treatment of *post-partum* hæmorrhage, the author advocates, after the failure of the more usual remedies, the plugging of the uterine cavity, for which purpose he uses strips of iodoform gauze (20 per cent). These strips are folded longitudinally in eight folds. The tampon should remain in the uterine cavity twenty-four hours, when it may be withdrawn by gently drawing the extremity of the strip which unfolds itself. There is an excellent chapter on the appendages, on injuries to the vulva, and the *post-partum* elevation of the uterus. The third volume includes a complete study of the delivery of the head when it is born after the rest of the body, and amongst other valuable chapters may be mentioned those on lateral obliquity of the gravid uterus, sudden death during labour, and the diagnosis of the period of utero gestation. The work is a valuable addition to obstetric literature. H. R. H.

Traité Elementaire d' Hygiene et de Therapeutique de l' Hysterie. By DR. GEORGE THERMES.

AFTER a very careful discussion of the difficult question of pathogenesis in the hysteria both of the male and female; the author devotes considerable space in the earlier chapters to the treatment of the neurosis, and to a regulation of the personal hygiene of the patient. He then passes to the study of therapeutic treatment in its literal sense, and reviews the agents which have revolutionised in later days the treatment of hysteria. He dwells most on hydro and electro therapeutics. The question of treatment in special institutions is discussed in all its details. The work concludes with a short chapter on hypnotism and suggestion. Dr. Thermes may be congratulated on not having devoted too much space to these new methods, the employment of which is so questionable in the hands of practitioners who are but slightly acquainted with the peculiarities and the tricks of the susceptible. H. R. H.

Recherches Cliniques sur les Anomalies de L'Instinct Sexuel. By DR. PAUL SERIEUX.

THE author adops Magnan's classification, and describes seriatim the different varieties of perverted sexual instinct, based on his own observations, most of which are unpublished. He shows that epileptic and hysterical patients should be divided into two groups according to the morbid manifestations of genital life; those which are of truly sexual origin, and those which are produced in the interval of the attacks and which belong to the mental condition which accompanies the neurosis. His general conclusion is that sexual psychopathies must not be considered morbid entities, but rather symptoms of very varied pathological conditions; mental degeneration, mania, melancholia, hysteria, epilepsy, confirmed delirium, senile dementia, or general paralysis. H. R. H.

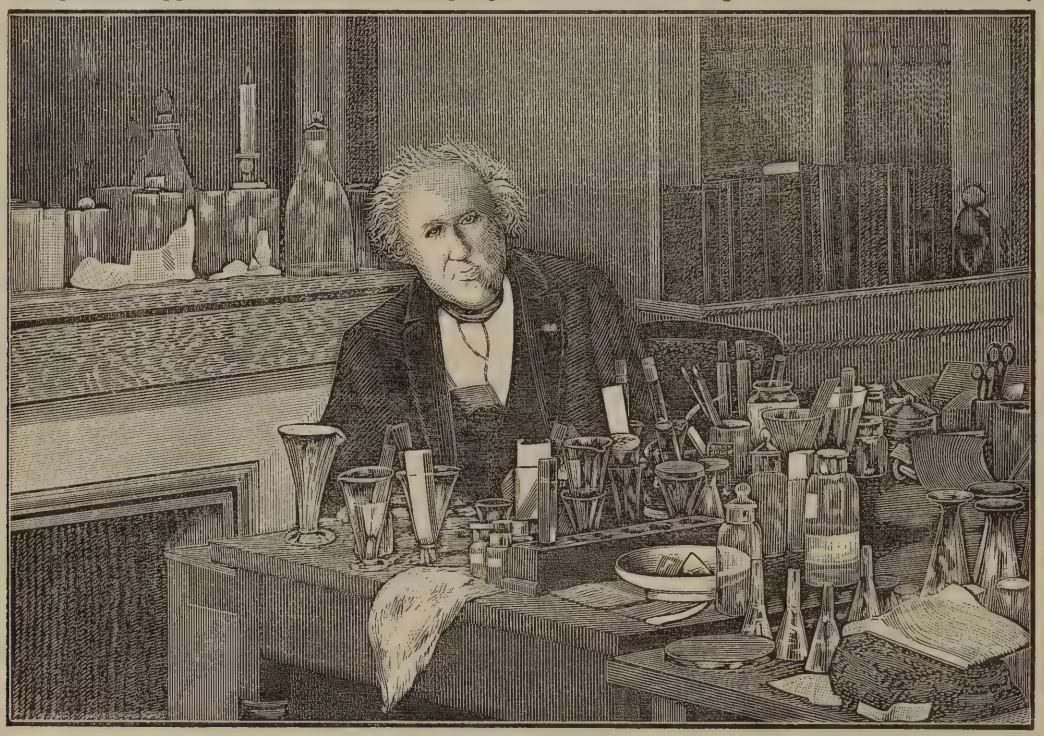
Notes on Physiology. By HENRY ASHBY, M.D. Lond., M.R.C.P. pp. 362, small 8vo. London: Longmans, 1889.

A FIFTH edition of this work requires little more at our hands than the announcement of its thorough revision, with the addition of new matter and new woodcuts, constituting the volume what the author justly designates a "*resumé* of the principal facts of the science"; indeed it would not be easy to find a more concise and correct summary of the "facts" of physiological science. It is adapted equally to the requirements of the student, and of the practitioner with scant leisure for the consultation of larger, or more elaborate, treatises. The former will find it an invaluable help in the study and in the dissecting room; the latter will have at hand a "refresher" to his memory in matters physiological, pathological, and therapeutical. W. KESTEVEN, M.D.

The Provincial Medical Journal,

MAY, 1889.

THE death of a centenarian is at all times remarkable, but the death of one of the most eminent chemists of the day, at this advanced age, makes the event all the more worthy of notice. M. CHEVREUL was born 31st of August, 1786, and was, therefore, in his 103rd year. It is only by a comparison or retrospection that we can really estimate what such an advanced age means. What happened 100 years ago is ancient history to most of us. M. CHEVREUL was a baby when MARIE ANTOINETTE was on the throne of France. He witnessed all the horrors of the Revolution. He would then be about seventeen years old. He saw dynasties and empires disappear, restorations of Kingships and Republics, fortunately preserving amidst all the changes his head—in more senses than one. His son died at the age of sixty-nine—an old man, but young in comparison with his father. M. CHEVREUL was descended from a medical family, who were also long lived. His father was MICHEL CHEVREUL, Master of Surgery and Doctor of Medicine; his grandfather and great uncle were also Masters of Surgery. His father lived to the age of ninety-one, and his mother to the age of ninety-three. He inherited from them not only health, but perseverance, great sense, and talent. After his preliminary education at Angiers, he went to Paris and entered the laboratory of VAQUELIN. His progress was so marked, that at the age of twenty VAQUELIN gave him the direction of his laboratory. About this time he devoted himself to teaching at the Charlemagne College. At the age of thirty he was appointed director of the dye works and special professor of chemistry at the Gobelins. His researches have taken a practical form, and resulted not only in wealth to himself, but wealth to others. In 1814 he demonstrated the existence of *oleine*, *margarine*, and *stearin*, as component elements of oils and fats; his theory of saponification, and his labours in connection with fats, not only created new industries, but widened the horizon for organic chemistry, and opened the way for other discoveries. Turning his attention to the science of colours, he reduced the alliance of colours to exact scientific laws, and in 1864 his book upon this subject, reproduced the labour of many years, having been preceded in 1828, 1831, 1839, and 1848, by memoirs on this subject. In the latter work M. CHEVREUL traced the rules of those undulatory and fugitive



M. Chevreul in his hundredth year.

effects produced by the colours of walls, fabrics, and clothing upon the flesh colour of human beings, and even went so far as to relate to the arrangements of flowers, and ornamental plants and plants in gardens. His enunciation of the laws governing the simultaneous or successive contrasts of colours, the theory of coloured shadows, and the art of defining by means of a chromatic circle every shade by a figure, has enabled the reproduction in foreign countries, and without seeing them, the tones of a fabric or tints of a picture painted in Europe. In 1826 he was elected to the vacancy in the chemical section of the Academy of Sciences. In 1830 be became Director of the Museum, and so continued until he relinquished it to Frémy in 1883. For many years he was examiner at the Polytechnic School. He has

also been President of the National Agricultural Society. All the leading scientific bodies of the world, such as the Royal Society of London, and the Scientific Societies of Copenhagen, Stockholm, Berlin, Moscow, Philadelphia, and others, have included him among their foreign members. Until 1855 he had been a member of the jury of every French exhibition. He became a member of the Legion of Honour, and in 1844 was a commander; a grand officer in 1865, and in 1875 he received the grand cross. The foreign decorations that he has received would cover his entire breast. His life has been passed between the Museum of Natural History, the Gobelins tapestry works, and the Institute of France, and he has never failed to be present at the Monday meeting of the Academy. The number of memoirs of which he has been the author are almost incalculable. During the Franco-Prussian war (1870-71) he remained within Paris during the siege, living at the Museum even while more than eighty Prussian shells were shattering the galleries and breaking the cases. It seems but the other day he was celebrating his hundredth birthday, when he received the congratulations of the whole scientific world. Up to that time he had never known what it was to be ill, he had never been incapacitated a single day owing to illness, and had never had an extra holiday. Work had not worn him out. He must have been of an evenly balanced mind to have passed through the political crises of his country, so unmoved as it were. Science was all in all to him, and for her he evidently lived. The principle of life inherited from his parents was fortified by his abstemious and methodical habits. M. Chevreul outlived his cotemporaries, and though a new generation had sprung up about him, yet when he went about the streets of Paris he did not feel like Rip Van Winkle. He kept himself *au courant* up to the last with what was going on round him, and only a short time before his death he was driven to see the Eiffel Tower, upon seeing which he said, "What a splendid sight. I always gloried in science. What cannot science do?" We are indebted for some of the above facts to the *American Druggist*, as well as for the drawing.

In the hurry and bustle of to-day, in the desire for change and novelty, but too little attention is paid to what has been done in the past, and too little credit given to the pioneers who made the operations of to-day possible. When but a few years ago we were told that the peritoneum might be opened with comparative impunity, it fell upon the profession as an absolutely new idea, as one that had never been thought of before; and the bolder abdominal surgery of to-day is also thought to be new by the general bulk of the profession, who naturally have not time to read up, or to dip into the pages of the past. It does not detract, of course, from the merits of the operators who have carried to perfection the abdominal operations which stand out as veritable triumphs of surgery, that their ideas have been forestalled, and they may well afford to have their laurels shared with competitors whose bones are mouldering in the dust. Amongst the men of the past who conceived the prospects of a bolder abdominal surgery, John Blundel stands out most prominently, and he has left us a history of his schemes in an 8vo. of 146 pages (two plates) entitled: "Researches, Physiological and Pathological, instituted principally with a view to the Improvement of Medical and Surgical Practice." We may mention here that Blundel was Lecturer on Physiology and Midwifery at the united Hospitals of St. Thomas's and Guy's. Blundel was remarkable in being the precursor of the school about which we hear very much at the present day—the school of experimental physiology; and he, like the modern school, selected the rabbit, and performed on this animal a number of experiments, which have been repeated during the last few years. Blundel was under the impression that abdominal surgery might be very much improved, and he tried what the rabbit could stand. For instance, he extirpated the left kidney of four rabbits, all of whom died. He removed the spleen from seven rabbits: two died, one survived three months, one six months, the sixth and seventh recovered permanently. In order to test the effects of injury to the bladder he injured the bladder of two rabbits: one survived six months, the other survived permanently. He injected human urine into the peritoneum of four rabbits, and left it for an hour, and then washed it out: one rabbit survived this operation. These are a few instances of the class of experiments he carried on, and from them he deduced the conclusion that moderate opening into the human peritoneum would not necessarlly prove fatal; and further, that certain parts, not essential to the welfare of our structure, may be removed from the belly without necessarily or even generally producing death. "The extirpation of the kidney," he says, "must be highly dangerous, but there is a presumption in favour of the successful removal of the spleen, the ovaries, or even large pieces of the bladder." He gives a number of instances in which important organs have been removed from the human body without death. He proposed a number of operations:

1. He suggested that a portion of the fallopian tubes might be removed, so as to prevent pregnancy in deformed pelvis.

2. He forestalled Battey by suggesting the extirpation of healthy ovaries, which he said would be an effectual remedy in cases of dysmenorrhœa.

3. He favoured the removal of a cancerous womb when ulceration first makes its appearances.

4. He suggested the removal of the puerperal uterus.

5. He advocated gastrotomy for intussusception.

6. An operation for injury of the bladder has just come prominently to the front, and rupture of the bladder we know now is not necessarily fatal. Blundel is very clear on this: "Should the bladder give way," he said, "into the peritoneal sac, why should we not lay open the abdomen, tie up the bladder, discharge the urine, and wash out the peritoneum thoroughly by the injection with warm water."

We have given, we think, sufficient instances of BLUNDEL'S great surgical foresight. We fear that a number of young experimentalists have hardly heard of BLUNDEL'S name, because they seem to be repeating the very same experiments which he performed over sixty years ago, and which are already established among the facts of medicine. Their experiments, of course, will be new to a certain number of the profession, but those who take up experimental physiology should be fully acquainted with what has been already done by the older experimenters.

THE impecuniosity of the hospitals is now admitted. They are bankrupt, because they have been trading on absolutely unsound principles. Charity has been abused, and the sick poor—for whom hospitals were originally intended—have been displaced by another class, who have taken advantage of the liberal offers held out to them. A commercial firm trading as the hospitals have been trading of late years would end in the bankruptcy court, and the judge would certainly be bound to read a very solemn lesson on the false system which led to insolvency. The hospitals are before the bar of professional opinion, and there is universal condemnation of the whole system. In spite of the verdict of the profession, the promoters and philanthropists of the hospitals are issuing appeals for more money, and in our large provincial towns new contrivances are started to bring in supplies. We published in the April number the views of a general practitioner on the hospital system, and from numerous letters we have since received we have reason to believe that those views are very generally accepted. One correspondent writes to say "that he has contributed £60 a year for the last ten years to his infirmary. I do not wish you to understand that I have given this in money, but this is the amount of money I have lost by the operatives, and other persons in good position, who have gone to the infirmary for free advice; without the hospital, they would have come to me. I do not object to surgical wards, or the treatment of cases requiring nursing and rest, but I fail to see why we should have out-patient deparments, where common ailments are prescribed for. I have had repeated opportunities of seeing the class of people who attend as out-patients; the majority of them are well able to pay the very small fee required by the general practitioner. A greater evil still is the custom at some infirmaries of visiting patients at their own homes."

Several other correspondents have written to the same effect. When the provincial infirmaries were first organised, the Poor-law system was very different from what it is at the present day. The sick poor required institutions of the kind, and subscribers gladly gave their money, and medical men their services, for such excellent objects as the relief of deserving sick. But the infirmaries opened their doors wider, and competition began; the greater the number of patients relieved, the greater good was supposed to be done. Hence all classes were gathered in the net. Poverty was not the first claim. Subscribers gave their guineas a year, and receiving books of tickets, they distributed them widely, thereby securing a very excellent return for their money. In process of time, subscriptions not coming in so freely, though the portals were so widely opened, Hospital Sundays and Hospital Saturdays were instituted, and appeals were made to the working-classes. We know of no class so intelligent as the latter. Their thrifty habits, and their saving propensities are deserving of the highest commendation: they have organised sick clubs, burial clubs, co-operative stores, and have in various ways tried to provide for a rainy day. When the hospitals threw open their doors to them, and invited contributions, they readily fell into the scheme, and they gave their pennies; but they expect something in return, but something out of proportion altogether to their donations, and something they could only receive at the expense of the profession. For instance, the working-men of Halifax gave £1,000 during the year 1888, but the work of the institution has now so much increased, that a new infirmary is required, and the governors have issued an appeal for funds. It would not be too much to say that for every shilling contribution of the working man, 20/- is returned by the profession. The chief factor in these institutions is the advice, and that is given gratuitously; the field of practice by this is much diminished, and the general practitioner loses possible clients. It comes to a question of supply and demand, and to one of trade. When the working-classes find the hospitals open to them on such very easy terms, they would be very unwise not to accept what is offered. The abuse of the hospital system in some of our large towns have compelled the profession to move in the matter. Meetings have recently been held at Birmingham, and a strong committee has been appointed to draw up a scheme which will protect the profession. It must be clearly understood that the profession is always willing, as it has been before, to do charitable work; but the hospitals are no longer charities, they are taking the place of the working men's sick clubs. This state of things cannot be allowed to continue without some protest from those who are so pecuniarily interested as general practitioners are. The profession in Birmingham, of all grades and classes, are united on this point. It is admitted that in Birmingham the hospitals are abused, greatly to the injury of the profession at large, and a scheme will shortly be issued which will in a certain measure correct the evil if properly carried out. The Provident Dispensary system has not given general satisfaction, and we believe will not be tried at Birmingham; but in its place numbers of dispensaries will be established all over the town, so as to place within the reach of the poorer classes medical advice, which will in some cases be given gratuitously, and in some cases be charged for. This will relieve the pressure on the hospitals; and as a vigorous system of examination of cases will be adopted, the frauds at present perpetrated on our charities will be prevented. We shall publish full details of the scheme in our next issue, because Birmingham is not the only town where the hospitals

are abused. This is a question for the general practitioners to take up; they can only check the abuse of hospitalism by union amongst themselves. The old fable of the bundle of sticks has very much force. The application of the lesson lies with them.

We have written several articles on the subject of antiseptic midwifery, and we have insisted upon the absolute necessity of cleanliness, and the power cleanliness has, apart altogether from antiseptics, of keeping the mortality down. We proved by statistics, taken from workhouse maternities, that a mortality not exceeding four per thousand may be obtained, and that even this mortality may be lowered in private practice. In public institutions cleanliness is only conspicuous by its absence. The patients are confined in wards which are foul; lie on beds which are saturated with foulness; the linen used is contaminated, and it is not to be wondered at that we should have periodical outbreaks of puerperal fever, and such a high mortality. Antiseptics by themselves cannot lower the mortality; but when antiseptics are made to embrace a complete change of linen, and thorough cleanliness all round is enforced, we have at once a lowering of mortality. This was illustrated long before the days of antiseptics, as may be seen by referring to a paper by Dr. Joseph Clarke, entitled, "Observations on the Puerperal Fevers," published in 1790. Clarke seeing the havoc wrought by puerperal fever, and the high mortality, with good judgment had his wards whitewashed; bedsteads and all the woodwork painted. Everything belonging to the bedding that it was possible to wash was scoured, and the remainder exposed for days to the open air, with the result that out of 960 women delivered, only three died. Dr. Clarke was on the right track when he laid down further suggestions, that the outfits of lying-in hospitals should be annually renewed, and that cleanliness should be scrupulously observed. We are glad to see that in modern lying-in hospitals they are depending not alone on antiseptics, but upon the rotation of wards, fresh bedding, and absolute cleanliness, which lies at the basis of all surgical treatment.

We have pleasure in publishing the report of the Preston Retreat for Women, Philadelphia, U.S.A., to prove how much can be done by cleanliness towards the extinction of puerperal diseases. Howard insisted in 1790 upon the rotation of wards, and we are pleased to see that Howard's idea is carried out in the year of grace 1889.

Dr. Price reported that during the year 1888 there were 184 deliveries in the Retreat. Of these patients sixty-nine were primaparas. There were 186 children born, including two sets of twins: nine of these infants were stillborn; 102 were males; eighty-four were females. There were thirteen forceps deliveries. Labour was induced in two cases in the eighth month. In one case a contracted pelvis, and in one the presence of a large uterine tumour. There have been no deaths of mothers in the Retreat for a period of nearly five years, furnishing a series of 540 deliveries without a death, the last death being from puerperal convulsions in a patient suffering from chronic Bright's disease, and who had had convulsions in five previous labours. Since this death there has not been a case of puerperal septicæmia in the institution. The great success attending the work of this maternity is dûe to the strict enforcement of the law of cleanliness. Everything and everybody in the house is clean and jealously kept so. This system was enforced by Dr. Goodell, and has been carried out on the lines laid down by him. The routine treatment of patients is as follows: the patient on entering the house is given a hot soap bath, dressed in clean underclothing, and given a clean bed in the waiting ward. If necessary, a laxative is given and the bowels kept soluble during her waiting period. Thereafter, until her confinement, she is obliged to take at least two hot soap baths per week and to wear clean clothes. She is allowed to do such light work about the house as the physician may deem advisable, and is encouraged to take as much open-air exercise as circumstances will permit. Every effort is made by the officers and employés of the institution to make it as cheerful and homelike as possible. When ready for the delivery room the patient is again given a hot soap bath and an enema and a vaginal injection of 1 to 2000 bichloride of mercury solution. She is clothed in a clean night-robe and drawers and placed upon a new clean delivery bed. Scrupulous cleanliness is observed in all manipulations of the patient, and after delivery a second vaginal injection is given, and a vaginal suppository of iodoform is introduced. The patient's person is carefully cleaned and all soiled clothing removed, the binder applied, a clean set of night clothes put on, and the patient placed in a new clean bed in the ward. All of the soiled articles are immediately removed from the delivery room, and a new bed made up for the next patient. The patients in the ward are carefully observed by the nurses, but no unnecessary handling or interferences indulged in. The patients remain in the ward until they are able to be up, when they are removed to the convalescent ward. As the ward is emptied, the beds are burned, and all the bedding most carefully cleansed. No soiled linen (as draw-sheets, diapers, napkins or other articles of clothing) is allowed to remain in the ward, but when soiled is immediately placed in a covered receptacle, and removed from the ward and building. No sponges, wash-rags or absorbent cotton are used in the house. Corrosive jute supplies the place of these articles, being clean, soft, remarkable absorbent and cheap; it is destroyed immediately after use. The pads used to absorb the lochia are also composed of jute, and are likewise destroyed after use. The beds in the wards are of new straw. All discharges from the delivery room are immediately burned. All bedding soiled beyond cleansing or contaminated by purulent or specific discharges is likewise burned. In short, every effort is made to keep the house perfectly pure and sweet. *The arrangement of the house permits of rotation in the use of the wards, so that a ward, once emptied, is not again used until three others have been filled. In the meantime it is most carefully and scrupulously*

cleaned and thrown open to the atmosphere. A similar system is pursued in the convalescent wards and delivery room. A few alterations in the building have very markedly increased the effectiveness of the institution and the comfort of its inmates. In the first place, the bath-room and water-closets have been removed from the building proper, and placed in the towers in the rear. The plumbing is as near perfect as modern sanitary science can make it. The verandahs have been enclosed in glass, forming large, light, airy corridors about the rear of the building, and furnishing a distinct circulating atmosphere between the house proper and the wards and the water-closets. The ventilation of the entire building is simply perfect. The capacity of the house at present is about fifty patients per month, and, when a few contemplated changes are made, the capacity will be doubled, and the institution rendered as nearly an ideal maternity hospital as is practicable.

The above results are admirable, and we trust that some of the methods will be copied. After years of suffering perfection may be reached at last. The antiseptic system has, so far as bichloride of mercury is concerned, something to answer for—viz., the deaths caused by it. Sins of commission must be put against the sins of omission on the part of those who believe in cold water. We cannot forget that Dr. Lucien Butte published in the *Nouvelles Archives d'Obstétrique et de Gynécologie* the notes of some twenty cases of puerperal diseases in which the employment of the *liqueur de Van Swieten* (a $\frac{1}{500}$ solution of the perchloride) was attended with fatal results. From the rapidity with which fatal intoxication took place in most of the patients, the characteristic salivation and gingivitis were absent, and in several the cause of death was not suspected until revealed at the *post-mortem* examination, the abdominal pain and diarrhœa being attributed to puerperal causes. The symptoms generally presented themselves within from twenty-four to forty-eight hours, and rapidly led on to collapse. The effects were more marked in patients of debilitated or cachectic constitutions, and lacerations of the cervix or perineum, or ulcerating surfaces, seemed to favour absorption to a marked degree. Perchloride in the strength of 1 to 2,000 is useless to kill germs, so that pure water may as well be used in Dr. Price's hospital.

Annotations.

"Forsan et hæc olim meminisse juvabit."

THE LATEST RESULTS OF THE PASTEUR INSTITUTE.

We shall continue to chronicle each month the deaths. (See p. 237, April, 1889.)

Case VI.—Ernest Bey, of Oissel, bitten December 13th. Treated from December 17th till January 6th at the Institute. Died of hydrophobia February 25th.

Case VII.—This case has a feature of its own, namely, that fourteen months elapsed since the bite. He was of course one of the people cured. Edward M——, æt. nine, of Levallirs-Perret, Boulevard de Villers, bitten January 31st, 1888, treated at the Institute the whole of the month of February. Died of hydrophobia 9th March, 1889.

THE TRAINING OF NURSES.

The training of nurses is open to very great improvement. We make this statement advisedly. Why do so many young women break down during the period of probation or pupilage? The answer is at once to be found in the long hours of duty, and the manual labour which they have to discharge. It is frequently urged that women are physically unfit for the position of the higher grade of doctor, but what shall we say of their physical powers in the position of nurses? The labour of nursing is more exhausting than in any other occupation. Pitiful appeals have been made as to the hours of labour in shops where young women are employed, but the shop girl's work is light in comparison with that of the nurse. At some institutions nurses are on duty from twelve to fourteen hours. Surely the time has come for some agitation to rectify such long hours of labour. We are calmly told that the doctrine of the survival of the fittest is the only one that can be entertained where nurses are concerned. The strongest survive, and the weakest go to the wall. We protest against this horrible doctrine, which has nothing in common with Christianity. There should be room and work even for the weakest.

THE MIDLAND VOLUNTEER MEDICAL ASSOCIATION.

We had the pleasure of being present at the Annual Mess of the Midland Volunteer Medical Association at Birmingham, on April 11th, and we can congratulate the volunteer surgeons of the Midlands on the excellent organisation they are building up, and on their *esprit de corps*. The association consists of forty-eight members, who are brought into touch with one another by correspondence, by manœuvres, and, not least, by social intercourse at an annual dinner. The ideas taken up by the association are to create amongst the volunteer medical officers a spirit of action so as to bring the ambulance of each regiment into a state of efficiency, to dispel the prevailing notions that the volunteer surgeon is only a dispenser of medicines, and to prove to officers commanding that by proper medical administration and by the help of stretcher-bearers the efficiency of each regiment must be increased. By medical examination the volunteer surgeons weed out the inefficients who are in the fighting line; and at all manœuvres and long marches the ambulance has proved itself of the greatest possible service. It does not require any argument to prove that in case of service the ambulance would be essential for the efficient working of a corps. The Midland regiments are very fortunate indeed in having on their strength such men as Surgeon-Majors Morgan, Manby, Acting-Surgeon Freer, who have deve-

loped the ambulance at great personal sacrifice and expense, providing stretchers, water bottles, haversacks, field panniers, ambulance waggons, and material of the best kind, without encroaching on the funds of their corps, besides giving their time and services in the instruction of the bearers. At Wolverhampton Surgeon-Major Maunby has organised an ambulance, collecting over £240 for the purchase of material. The surgeon of a volunteer regiment stands in a somewhat different relation to that of the other officers. The combatant officer turns from his own profession to learn another one, but the volunteer surgeon, though he has to learn some drill, is still carrying on his profession when he goes into camp. He thus gives to a regiment a great deal more than any other officer, and a full recognition of the value of his services is received from only a few regiments. In some of the northern regiments this recognition is made by not allowing the surgeon to pay his expenses in camp, the commanding officers feeling that the surgeon has not only left his practice, but that he is still practising his profession; while he is earning at the same time a capitation for the regiment, and adding to its efficiency. The Midland Volunteer Medical Association owes very much of its success to the energy of Acting-Surgeon Freer, who as secretary has to organise, and really to do all the work. We commend to the notice of other districts the organisation existing in the midlands.

THE BUYING OF HOSPITAL APPOINTMENTS.

The purchase of hospital appointments may seem strange to English surgeons. It is a custom which prevails in Ireland, and which still finds favour in the country. Sums varying from £800 to £1,000 have been given for an appointment as hospital surgeon, though no salary is attached to the position. Why should a hospital appointment be worth this position? Simply because only through hospital appointments could the surgeon obtain recognition. By means of the hospital he was advertised; by means of the hospital, surgical skill was acquired, and virtually over the bodies of the poor the surgeon rose to eminence, when he could touch the pockets of the rich, and recoup himself for the £1,000 expended. The purchase of the appointment is much the same as the purchase of a practice in England. Occasionally incompetent men by means of money obtained the rank of hospital surgeon, but as a rule the Irish system has not been such a very immoral one as some critics would make out. In England incompetent men have bought practices, and do so still, but we do not see that the medical press takes any notice of the custom, or that it condems it.

FEES OF MEDICAL WITNESSES AT ASSIZE COURTS.

We published some time back a protest drawn up by the Wigan Medical Society, against the fees payable to medical witnesses in criminal cases. The subject is again coming to the front, and we can only repeat what we then said on the injustice of the present scale of fees. One guinea a day, with railway fare, is an inadequate fee for a medical witness. The interests of justice are not served by this scale of remuneration, and we do not wonder at the statement which has been made in one of our daily papers by a medical man, that if he witnessed an accident, and thought it likely he would have to go to the assizes, he would slip away. This is an extreme way of putting one individual's sense of the injustice. Medical men cannot afford to injure themselves even for the general good. The profession is always ready to render aid in any emergency, without any fee; but when the emergency is over, an act of kindness may involve a further pecuniary loss. The medical man may well hesitate, and doubt whether he can be expected to sacrifice his own interests any further. We trust that the present agitation may result in a thorough revision of the scale of fees.

MEDICAL LEGISLATION IN TENNESSEE.

We learn that there is before the Legislature a Bill to regulate the practice of medicine in the State of Tennessee. The Bill is very stringent in its provisions, and travelling doctors or peddlers of drug nostrums or patent medicines are required by its terms to pay $100 a month to the State. It provides for a State Board of Medical Examiners, who shall issue certificates or licenses to practice, either upon examination or upon proof that the applicant was a practising physician prior to the passage of the act. These certificates shall be recorded in the office of the county court clerk. Practising medicine without such a certificate shall subject the offender to a fine of $100 for the first offence, and $200 for each subsequent offence. The same penalty is attached to "any itinerent vendor of any drug, nostrum, ointment or application of any kind intended for the treatment of disease or injury, or who may by writing, printing or other methods, profess to cure or treat disease or deformity by any drug, nostrum, manipulation or other expedient," who does not pay to the Board of Examiners $100 a month for such privileges.

PAUPERS *AND* PAUPERS.

"The methods of relief which are available for the poor may be broadly divided into two classes: Poor-law infirmaries and charitably maintained hospitals. As they are at present conducted, there is no strict line of demarcation between the two. For all practical purposes they are both supported by one and the same class, and that class is entirely distinct from those by whom they are used. The general hospitals are as much maintained by the money of the wealthy as are the Poor-law infirmaries. The only real difference is that in the former case the wealthy tax themselves, whereas in the latter they are taxed by the State. *To hold, therefore, that a man is degraded to the level of pauperism if he goes to a poor-law infirmary, whilst he retains his full self-respect and independence if he goes to a general hospital, is sheer nonsense.*"

We are pleased to note the above paragraph in the

Hospital; it is a view of the question which for years we have been urging. It has given great offence to some to class the working men who accept gratuitous advice at the voluntary hospital with the poor who frequent the Poor-law dispensaries. The State-aided infirmary is the proper place for the poor; there should be no stigma attached to them for seeking advice for which they have in their time paid rates. There should be a stigma on the working man who cadges on the charities.

BRITISH MEDICAL ASSOCIATION.

The fifty-seventh annual meeting of the British Medical Association will be held at Leeds, on Tuesday, Wednesday, Thursday, and Friday, August 13th, 14th, 15th, and 16th, 1889. The profession in Leeds are trying to organize a large meeting, and have contributed a large sum of money for the expenses of entertainment. The president-elect is G. G. Wheelhouse, F.R.C.S., J.P., Consulting-Surgeon Leeds General Infirmary. As Mr. Wheelhouse claims to be a general practitioner, we must emphasize the value of his election. The address in medicine will be delivered by Dr. Hughlings Jackson; the address in surgery by T. Pridgin Teale, F.R.S., F.R.C.S.

An address in psychology will be delivered by Sir J. Crichton Browne, M.D., LL.D., F.R.S., Lord Chancellor's Visitor in Lunacy, London.

A. Medicine.—*President*, Thomas Clifford Allbutt, M.D., F.R.S. *Vice-Presidents*, Charles Parsons, M.D.; Robert Saundby, M.D. *Honorary Secretaries*, Alfred George Barrs, M.D., 22, Park Place, Leeds; Theodore Dyke Acland, M.D., 7, Brook Street, Grosvenor Square, W.

B. Surgery. — *President*, Thomas Richard Jessop, F.R.C.S. *Vice-Presidents*, Edward Atkinson, M.R.C.S.; Arthur F. McGill, F.R.C.S.; Henry Morris, F.R.C.S. *Honorary Secretaries*, Arthur W. Mayo Robson, F.R.C.S., Hillary Place, Woodhouse Lane, Leeds; Edward Ward, M.B., 22, Park Place, Leeds.

C. Obstetric Medicine and Gynæcology.—*President*, Charles J. Cullingworth, M.D. *Vice-Presidents*, James Braithwaite, M.D.; J. W. Byers, M.D. *Honorary Secretaries*, F. Hall, M.D., St. Mark's House, Leeds; Peter Horrocks, M.D., 9, St. Thomas's Street, S.E.

D. Public Medicine.—*President*, John Edwin Eddison, M.D. *Vice-Presidents*, George Goldie, L.R.C.P. Edin.; Shirley F. Murphy, M.R.C.S. *Honorary Secretaries*, George Eastes, M.B., 35, Gloucester Place, Hyde Park, W.; Arthur Stopford Underhill, M.D., Great Bridge, Tipton, Staffs.

E. Psychology.—*President*, D. Hack Tuke, F.R.C.P., LL.D. *Vice-Presidents*, W. Bevan Lewis, L.R.C.P.; Ringrose Atkins, M.D. *Honorary Secretartes*, John Greig McDowall, M.D., Bethlem Royal Hospital, S.E.

F. Pathology and Physiology.—*President*, Joseph Coats, M.D. *Vice-Presidents*, Thomas Churton, M.D.; De Burgh Birch, M.D. *Honorary Secretaries*, Ernest Henry Jacob, M.D., 12, Park Street, Leeds; T. Wardrop Griffiths, M.B., 23, Park Square, Leeds.

G. Ophthalmology. — *President*, George Anderson Critchett, F.R.C.S. Edin. *Vice-Presidents*, John Albert Nunneley, M.B.; George A. Berry, M.B. *Honorary Secretaries*, Gustavus Hartridge, F.R.C.S., 65, Green Street, Grosvenor Square, W.; R. N. Hartley, M.B., 29, Blenheim Terrace, Leeds.

H. Diseases of Children. — *President*, Thomas Scattergood, M.R.C.S. *Vice-Presidents*, Richard Favell, M.R.C.S.; A. H. Carter, M.D. *Honorary Secretaries*, Walter Henry Brown, M.R.C.S., 19, Queen Street, Leeds; Angel Money, M.D., 24, Harley Street, Cavendish Square, W.

I. Laryngology.—*President*, Henry T. Butlin, F.R.C.S. *Vice-Presidents*, Francis de Havilland Hall, M.D.; Richard A. Hayes, M.D. *Honorary Secretaries*, G. M. Macdonald, M.D., 47, Queen Anne Street, Cavendish Square, W.; Barclay J. Baron, M.D., 16, Whiteladies Road, Bristol.

J. Otology.—*President*, George P. Field, M.R.C.S. *Vice-Presidents*, Frederick Morrish Pierce, M.D.; Henry B. Hewetson, M.R.C.S *Honorary Secretaries*, Adolph Bronner, M.D., 33, Manor Row, Bradford; G. William Hill, M.B., 27. Cornwall Road, W.

Honorary Local Secretaries, Charles J. Wright, M.R.C.S., Lynton Villa, Virginia Road, Leeds; Charles M. Chadwick, M.D., 3, Park Square, Leeds; G. Herbert Rowe, M.R.C.S., Hillary Place, Leeds.

Programme of Proceedings.

Tuesday, August 13th, 1889.

9.30 a.m.—Meeting of 1888-89 Council.

11.30 a.m.—First General Meeting. Report of Council. Reports of Committees; and other business.

4 p.m.—Service in Parish Church. Sermon by the Right Rev. the Lord Bishop of Ripon.

8.30 p.m.—Adjourned General Meeting from 11.30 a.m. President's Address.

Wednesdays, August 14th, 1889.

9.30 a.m.—Meeting of 1889-90 Council.

10 a.m. to 2 p.m.—Sectional Meetings.

3 p.m.—Second General Meeting. Address in Medicine by J. Hughlings Jackson, M.D., LL.D., F.R.S.

4.30 to 6 p.m.—Afternoon Reception at the Yorkshire College by the President, Council, and Senate of the College.

8-30 p.m.—*Conversazione* by the President of the Association and Local Executive Committee in the Art Gallery and Municipal Buildings.

Thursday, August 15th, 1889.

9.30 a.m.—Meeting of the Council.

10 a.m. to 2 p.m.—Sectional Meetings.

3 p.m.—Third General Meeting. Address in Surgery by T. Pridgin Teale, M.A., F.R.S., F.R.C.S.

4.30 to 6 p.m.—Probable visit to the new W.R. Asylum at Menston.

7 p.m.—Public Dinner of the Association in the Town Hall.

Friday, August 16th, 1889.

10.30 a.m. to 1.30 p.m.—Sectional Meetings.

3 p.m.—Concluding General Meeting. Address in Psychology by Sir James Crichton Browne, M.D., F.R.S.

4.30 to 6 p.m.—Garden Party at the W.R. Asylum, Wakefield.

8.30 p.m.—Reception and Ball by the Mayor of Leeds in the Town Hall.

Saturday, August 17th, 1889.

Excursions.

DEATH OF DR. JOSEPH ROGERS.

We regret to announce the death of Dr. Joseph Rogers, Chairman of the Poor-Law Medical Officers' Association, a man of indefatigable energy in the cause he had so much at heart—viz., that of the Poor-law service. He was almost the last of a band distinguished by their zeal and unselfishness, who, some thirty years ago, took up the cause of the poor, and who fought against oppression and injustice with an energy unknown in these degenerate days. The Poor-law medical officers of to-day owe their positions to Drs. Griffin, Enslie, Fowler, Rogers, and others, who have since gone over to the majority. There is a difference between the old Strand workhouse to which Dr. Rogers was appointed at a salary of £50 a year, *finding all medicines and appliances*, and the modern workhouse hospital, as the one recently opened at Birmingham with its medical staff, etc. Dr. Rogers lived to see the Poor-law system placed, if not on a satisfactory basis, still on one that promises to be satisfactory in the future.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. Kesteven, M.D.

A Novel Cure for Constipation (*Medical Press*, April 3rd, 1889).—The relief of obstinate constipation is often a matter of considerable difficulty that any plan, at once simple and permanent, of attaining the desired end is likely to secure general attention. In this connection Dr. Clement Cleveland, of New York, claims that he has obtained most gratifying results from forcible dilitation of the sphincter and muscle, which, according to a communication in the *New York Medical Record*, he has now performed ten times, in all successfully. The theoretical grounds on which the relief thus afforded is explained are that fæcal matter passing from the colon into the rectum arouses in the latter the conjoined muscular action by which its expulsion is to be secured. But in cases of long-standing constipation the nerves of the rectum, distended by hard, dry fæces, are blunted in sensibility, and the contractile power of its muscular fibres is consequently much enfeebled, so that they are incompetent, even when aided by the expiratory muscles. to overcome the resistance of the sphincter, which thus acts as a barrier to the hardened masses. These latter, by over-stimulating it to contract, prevent it from grasping the material packed close against it, and so downward movement of the scybala is impossible. When, however, the muscular band has been forcibly stretched, it offers oniy a passive resistance to the fæces, but still continues to check involuntary defæcation when not aided by the expulsive force of the respiratory muscles. The proposed operation seems not unlikely to prove beneficial in certain selected cases, and it may possibly have a future before it.

A case of Death from Anæmia due to the Ankylostomum Duodenale (read before the Medical Society of Queensland). By James B. Hogg, L.R.C.P. et R.C.S., Edin., Assistant Medical Superintendent Woogaroo Lunatic Asylum, Goodna (*Australasian Medical Gazette*, February 7th, 1889).—P. C. C.——, æt. thirty-six, single, labourer, native of Denmark, was admitted to the asylum from Cleremont in December, 1878. He was suffering from mania which gradually passed into secondary dementia. He was quite unable to give any account of himself, and never made any complaints as to his health. He was very dirty in his habits, passing his urine and fæces into his clothes, filling his ears and nose with pebbles, threading bits of wire through his nails, etc. He habitually swallowed large quantities of stones, and on one occasion when he had to be closely watched in order that we might recover two keys which he had snatched from ayslum attendants, we found in his motions, besides, stones, etc., the two keys, a penknife, and the bowl of a pipe with a three quarters of an inch of stem. On 15th June, 1885, his feet and ankles were found to be œdematous, but his heart seemed right and his urine was free from albumen. On 21st September, 1885, he is reported "well again." On 10th January, 1886, his feet, legs, and eyelids were noticed to be œdematous, and his urine contained a trace of albumen. By 10th March he had again recovered. On 15th October, 1888, he was seen to be thinner and paler, and by the 5th November he had become very anæmic and generally dropsical. His urine was clear, watery, sp. gr.: 1.005 acid, and contained about one-twelfth of albumen. Tube casts were not looked for. Thenceforward he lay in a condition of gradually deepening anæmia and anasarca, dying on the 8th December, 1888. A *post-mortem* examination was made. In the jejunum were thirty or forty minute worms, each about one-third of an inch long, adherent by one extremity to the mucous membrane. Under the microscope these worms were recognised as specimens of the Ankylostomum duodenale. This worm is the cause of a form of anæmia, due to the loss of blood abstracted from the system by the worm which acts like leeches. This worm gains admittance to its host through food or drink.

Notes on some Anti-Vaccination Fallacies. By Arthur F. Hopkirk, M.D. (*Medical Press*, April 3rd, 1888).—Dr. Hopkirk categorically answers the fallacies by facts. We quote from the latter, apart from the former, as sufficient refutation thereof. Statistics have established the fact that in the previous century one-tenth of mankind died from small-pox, and another tenth was permanently injured by that disease. Since the introduction of vaccination, the mortality from small-pox has been reduced to a minimum. Varioloid is now-a-days much more frequent, and even variola runs a milder course. From varioloid alone healthy adults hardly ever die. The danger of the transfer of syphilis, or other diseases, by vaccination may be reduced to such a minimum that the benefits of vaccination infinitely outweigh any possible injurious effects. Of 2,800,000 vaccinations performed in Germany in 1883, not a single case of transmitted syphilis, or other illness, has been observed. Since 1875, when compulsory vaccination was enforced, not one single German soldier had died of small-pox, but the mortality from that disease has remained very high both in the French and Austrian armies. In 1886, the small-pox death-rate per 100,000 was, in Berlin, 0.07; in Hamburg, 3.58; in Munich, 0.75; in Dresden, 0.0; in Breslau, 0.0; in London, 0.6; in Vienna, 26.15; in St. Petersburg, 15.30; in Prague, 55.49; in Buda Pesth, 368.7; in Marseilles, 543.3; in the German army, 0.0; in the Austrian and French armies, 7.9 each: total small-pox mortality in Germany, 155; in Marseilles, 2,051!!!!! It being thus an incontrovertible fact that in Germany, the only thoroughly vaccinated country in the world, small-pox has ceased to be a scourge, need one be surprised that the opposition to compulsory vaccination in that highly-educated land is as minimal as the mortality from small-pox?

Charcot on Suspension in Locomotor Ataxia (*Medical Press*, April 3rd 1889).—Dr. Prendergast, writing from Paris, made the following statement on the above:—Your Paris Correspondent, who generally gives such a precise and faithful *resumé* of French medical progress, has I fear this time, with all respect, allowed his enthusiasm to somewhat eclipse his accuracy. In your issue of March 20, *à propos* of this method and the "most extraordinary success" attending it at the Salpétrière, he says: "Out of eighteen cases, some of which were very aggravated, only four were not benefited, and of these even the fault lay in the patients themselves, in the fact that they did not persevere in the treatment. All the others were more or less relieved, and some were *completely cured*. . . . It seems that by hanging a man up to the ceiling once a day until he is—not dead—but *cured*, that insidious and until lately incurable disease can be conquered. Such is the testimony of such a great professor as Charcot, and certainly his opinion ought to carry weight." Now without any doubt the testimony of Professor Charcot carries the greatest possible weight; but unfortunately this is not Professor Charcot's testimony. On referring to my notes of his *séance* of January 15, I find he very cautiously confined his praise of the method, so far as he had carried it out, to the word *amelioration*. He pointed to the amelioration—in some cases marked—in, for instance, the following prominent symptoms: Incoordination, the sign of Romberg, the sexual impotency, the lightning pains, the vesical troubles, &c.; and he remarked that this was certainly a great deal, and should commend the treatment for trial to any practitioner having a poor patient so afflicted, but he studiously avoided the word cured. Lest there should be any conflict of testimony, however, I showed the distinguished *maître* your correspondent's lines a day or so ago in the course of conversation, and Professor Charcot now authorises me to say that he does not consider any of the eighteen patients "cured," much less "completely cured"; moreover, the Professor added he has little hope that any such method will ever procure the cure, in the ordinary acceptation of the term, of locomotor ataxia.

Massage in Gynæcological Practice (*Medical Press*, April 3rd, 1889).—At a meeting of the British Gynæcological Society (Mar. 27th),

Dr. Macnaughton Jones, in reply to criticism from a paper that he had read, said that he had never used internal massage in certain pelvic conditions, because he was afraid of the danger of such a course, nor, on the other hand, had he used such strong language in condemnation of internal massage as had been used that evening. He entirely differed from the President when he implied there was an analogy between the use of the speculum and internal massage. He also took exception to the present form of internal massage as practised by Jackson and others. He had endeavoured to treat the subject from a much wider point of view than what was done in London houses and London hospitals. Looked at in an unprejudiced light, it could not be regarded as quackery. He did not agree either with Dr. Bantock when he stigmatised the physiological results of massage as "high falutin." He took a broad view of massage, and he maintained that it was only by taking the physiological effects of the process into account and applying their knowledge to the pelvic viscera, that they could hope to arrive at good results in the pelvic region. The failure of massage when applied to unsuitable cases was not a fair argument against it. He recapitulated the special gynæcological cases in which he had stated he found massage of service. He believed the Weir-Mitchell treatment had been much abused. He had been struck with the remark that costiveness was not a gynæcological trouble. He said that no one who had given much attention to gynæcological cases would dispute that it was a frequently associated trouble. He had been grievously disappointed at the discussion. He had purposely taken a broad view, and he had expected a discussion on similar lines. He had not intended to write a paper on the abuse of massage, but he might have done so from the turn the discussion had taken. It was the indiscriminate and often barbarous use of massage to which he had referred. That it was that had brought it into disrepute. So far as he was at present able to say, he did not doubt that the scientific application of *internal* massage might be followed by the best results, but as at present applied, it might be followed by far more injurious results than the benefits that accrue from it. We quote the editorial comments upon this discussion :—

"Whether he intended it or not, his paper certainly contains the materia for a formidable indictment, and it is not surprising that advantage was taken of the opportunity to put into words, feelings which have long been current in reference to the questionable practices which are carried on in London and elsewhere under the specious garb of 'uterine' and other varieties of massage. When one hears the reproach made against itinerant masseurs and masseuses that they earn sums which an 'M.B. of London or an M.R.C.S.' cannot hope to gain until after years of practice, it is difficult to avoid the impression that the facility with which these adepts in a now fashionable method of treatment earn a generous livelihood is not altogether foreign to the outcry against the abuse of massage. We will willingly acquit the author of the paper of any intention to decry a treatment of which he has so eloquently described the advantages, an eloquence which, by the way, appears to have been largely thrown away upon many of the operating abdominal surgeons who were present. It may be alleged that the undisguised contempt with which the latter regard massage savours of jealousy, that so many cases admirably suited to reflect credit upon the surgeon who undertakes their operative cure should be allowed to gravitate elsewhere. It must be admitted, however, by impartial observers that the main arguments of those who see in massage merely a means of 'sweating' persons with thin bodies and fat purses, are based upon instances in which the method has been resorted to, or recommended, without sufficient cause, or in spite of what, according to them, ought to have been considered to be contra-indications. Whatever the value of massage may be, it is obvious that it is not to be calculated from instances in which it had been employed *mal à propos*. There is, however, one point upon which both parties are agreed, and that is as to the harm done by sanctioning the carrying out of this or any other method of treatment by persons whose only title to practise in the particular department has been the payment of a few pounds to some speculative lecturer or *soi-disant* teacher of the art. The number of ladies and gentleman who now adorn their patronyms with the proud and lucrative designation of professors of the art and mystery of massage is legion. Quackery is not this or that treatment, but the method in which it is carried out, and for this reason it is sometimes possible to point to cases in which even persons within the sacred fold of the profession have been guilty of practices which are perilously near the boundary line of quackery."

Recovery from Extensive Compound Fracture of the Skull. T. Carson Fisher, M.D., Ch. M., Sydney (*The Australasian Medical Gazette*, February, 1889).—E. K——, æt. thirty years, received a blow on the head from a glass tumbler that had been thrown at him. On admission to the Sydney Hospital, May, 1888, he was conscious, but aphasic. The pupils were equal, and reacted to light. Pulse 105; no paralysis. On the left side of the head was a curved wound two and a half inches long, transverse in direction, about three inches above the tip of the ear. "The scalp was cut through, and at the bottom of the wound several loose portions of bone were felt, corresponding to the extent of the wound. There was a space about one-third of an inch wide between the edges of bone, in which the pulsation of the brain could be seen and felt. When the loose fragments of bone were removed, there was visible an uncovered area of dura mater, of irregular oval shape, about two and a half inches long, one inch in the transverse and vertical diameter. Bleeding from the arteries of the scalp was checked by pressure, while three-clip forceps included in their grasp the bone and some divided meningeal branches. A moist sponge, with slight pressure, was put over the wound." When bleeding had ceased, the edges of the wound were united by hare-lip pins. There were no marked symptoms of cerebral lesion, beyond aphasia of a peculiar type. He understands what is said to him, and answered in monosyllables, but cannot form a sentence. He seems to have command of ideas, but to have difficulty in articulating any beyond the simplest single words. His intelligence was unimpaired. The tongue deviated slightly to the left. He could write, but in a shaky hand. The case progressed favourably, and on July 13th he was made an out-patient.

"This case illustrates the fact that extensive fractures of the skull, with little or no injury to the brain or its membranes, allow of recovery without dangerous symptoms. It shows also Nature's method of repair. The large hole in this man's skull was filled by tissue so firm that it formed a covering nearly as effectual as bone itself. The site of the brain lesion is of some interest. The motor aphasia was the first and prominent symptom, and preceded by a few days the facial paralysis, which was incomplete, the upper part of the face being little affected, as is usual in lesions of the motor path between the cortex and the nucleus of origin of the facial nerve. The centres for movements of the mouth, lips, and face, lie grouped closely together about the lower end of the fissure of Rolando, and this area was crossed by the wound. The form of aphasia noticed in this case is termed aphemia by Bastian, who thinks that the lesion causing it is in the sub-cortical part of Broca's convolution, *i.e.*, involving the internuncial fibres from the left speech centre (glosso-kinetic centre, as he terms it) to the bulbar-motor centre."

Paralysis after Compound Fracture of the Skull, Treated by Trephining—Recovery. Reported by Dr. Marwood, Resident Surgeon, Geelong Hospital, Victoria (*Australasian Medical Gazette*, February, 1889).—J. J. K——, æt. one and a half years, the day previous to admission (November 15th, 1888), fell out of bed, striking his head against a small iron cot. His mother brought him to the Geelong Hospital, stating he had fits! ! (clonic spasms ?) ever since. Dr. Hope and I, on examination, found a small punctured fracture over the right frontal bone. The patient had left hemiplegia and right pupil dilated; breathing stertorous, and pulse small. Trephining was decided upon, which was performed by Dr. Hope. A portion of the inner table, about the size of a sixpence, was found to be detached and pressing on the brain. This was elevated, the wound dressed antiseptically, and the child put to bed. Within twenty minutes after the operation all signs of paralysis had disappeared. The temperature in the evening was 101.6. From that time the child made steady recovery, and was discharged three weeks after, with the wound almost completely healed. The chief points of interest are: The small size of the fracture, causing such extensive paralysis; and the immediate improvement after the operation.

Relation of the Age of Parents to the Vitality of Infants (*L'Union Médicale*, April 2nd, 1889).—A Hungarian *savant* has arrived at the following conclusions from the study of 25,000 cases: The issue of very young parents have feeble constitutions; the children of old parents are in a like category; the most robust children are those born of a mother under thirty years of age and a father over thirty-five.

Treatment of Phthisis with Tannin (*L'Union Médicale*, April 2nd, 1889).—Dr. E. Howzé, of the Hospital St. Jean, Brussels, has for the last eight months treated all his phthisical patients with tannin, with excellent results in all stages of the disease, especially where cavities had existed. The dose administered has been seventy-five centigrammes (equal to about ten grains in English), repeated three times a day. At the end of a few days, the expectoration and night sweats diminish, and in most cases the appetite is improved. The physical signs are reported to present an equal amelioration, the moist râles giving place to a dry rhoncus. Hectic declines, while the patient gains strength and increases in weight.

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

BY G. F. CADOGAN-MASTERMAN, M.D.

Paradental Epithelioma. Dr. Polaillon (*L'Union Médicale*).—A. S——, æt. fifty-three, a tutor, was admitted to the hospital *de la Pitié* on October 19th, 1888, for the removal of a tumour growing from the right inferior maxilla. At the beginning of the year 1883 the patient noticed a growth, about the size of a haricot bean, on the outer margin of the right jaw, which had been several times the site of a gum-boil. The teeth were all in very bad condition, but the patient's general health was excellent. Beyond rubbing the little tumour with iodine ointment, nothing was done, and its condition seemed stationary until the end of the year, when severe pain, extending from the cheek and down the neck, suddenly set in; it lasted for twenty-four hours. Mastication and deglutition were difficult, and the growth rapidly enlarged. By October, 1887, it was as large as an apple, and extremely painful, and at the time of the patient's entry into the hospital it had reached the size of the fœtal head. Some vegetations had also sprung from the adjoining gum, sphacelated and sloughed away, leaving an evil-smelling and bleeding cavity, greatly to the sufferer's distress. Externally, the tumour extended from the right ear to the median line of the lower jaw, and reached nearly to the middle of the neck, the surface smooth, the skin over it very thin, but healthy. To the touch some portions were as hard as wood, others somewhat elastic, and near the chin it felt and crackled exactly like dry parchment. Handling it gave the patient great pain. Within the mouth, in place of the gum on the right side, there were two vascular growths as large as a nut, dark purple in colour, and bleeding at the lightest touch. The molar teeth had disappeared; the bicuspids remained, but were greatly displaced. It was clear that the growth had commenced within the horizontal portion of the inferior maxilla, had distended it into a thin bony shell, and then expanded between the mucous membrane and the muscles of the cheek. The two outgrowths were probably pushed through the sockets of the lost molars. It was diagnosed as an osteo-sarcoma, but the subsequent microscopic examination showed that this was a mistake.

The operation was performed on the 25th of October, 1888. Chloroform was administered, and a curved incision made from the lobe of the right ear to the commissure of the lips, a second curved incision lower down isolated the thin integument covering the most prominent part of the tumour. Then, without opening the buccal cavity, this was carefully separated above and below from the soft parts, and the facial artery was ligatured in two places, and divided between them. The lower lip was incised, and separated from the bone, which was cut through with a chain-saw on the median line. The healthy buccal mucous membrane was easily separated from the surface of the tumour. The masseter, internal pterygoid and temporal muscles were then divided, and a simple twist at once disarticulated the jaw, and brought away the whole of the growth with it. The divided mucous membrane of the floor of the mouth was carefully sewn with silk to that of the cheek, so as to completely shut off the cavity of the mouth from the wound. A few vessels were also ligatured, and the incision in the cheek closed, after the insertion of two drainage tubes, with silver wire sutures, and the whole covered with antiseptic dressings. Healing went on very rapidly. The mucous membrane united at once. Two or three suppurating points in the external wound gave exit to the arterial sutures, and eventually to a fragment of bone, but were soundly closed by the 11th of December, when the patient left the hospital for a convalescent home. One great advantage of completely isolating the oral cavity from the wound was that it facilitated the taking of food, and that not a drop of pus ever mixed with it. The patient is now perfectly well; articulation is not in the least interfered with; and the power of masticating is better than one would expect. A firm fibrous growth has taken the place of the lost half of the jaw, and after a time a dental plate will be fitted there. The tumour was found to be epitheliomatous in structure, mainly covered externally with the wonderfully expanded bone of the lower jaw, containing internally white rounded masses, some extremely hard, others softened, and undergoing cystic degeneration.

Etiology and Treatment of Diabetes. Dr. Cantani (Naples).—Diabetes, the author regards as a general disease with special localisation in the chylopoietic viscera. One secondary result of the disease is diminished excretion of carbonic acid, from the lessened oxidation of the carbo-hydrates of the food; and he considers that the excessive use of fecular and saccharine substances is its cause, their constant digestion setting up a train of unnatural phenomena in the system which is fatal to healthy assimilation. It is only in very rare instances that disturbance of the nervous system gives rise to it. Having treated more than a thousand diabetics, he could affirm that the most important point was the absolute deprivation of meat; the least transgression of this rule led to the return of the glycosuria. Milk rendered alkaline by the addition of carbonate of potash or soda, an albuminous regimen with cream or butter, are to be advised. Dr. Renzi states that when he was practising in Geneva, where meat is very largely eaten, he scarcely saw two or three cases in a year; but in Naples, where the people live chiefly upon grain and pulse, he sees from forty to fifty in the same period. A case is quoted by Dr. Baccelli of a young man who suffered a concussion of the brain, and afterwards became diabetic. He died eventually, and the necrobiotic point was found in the centre of the *pons Varolii*. In this instance, the disease was clearly due to nervous influence.

Treatment of Hydatid Cysts. Dr. Baccelli (Rome).—By means of a hypodermic syringe, carefully sterilised, and used with all aseptic precautions, withdraw about two drachms of the cystic fluid, and replace it by an equal volume of the liq. hydragrari perchloridi, P.B. The author directs ten grammes, containing one to five centigrammes of the salt. This treatment is extremely simple, perfectly safe, and gives excellent results (*Giornale delle Scienze Mediche Roma*).

Attacks of Fever due to a Stricture of the Urethra. Dr. Dubuc (*L'Union Médicale*).—The phenomenon of rigors, followed by a rapid pulse and high temperature after mechanichal dilatation of the urethra, is familiar enough under the name of "cathether fever;" but Dr. Dubuc has seen several examples of a similar condition, and of same duration, due to the irritation caused by the passage of the urine alone through an old and tight stricture. He selects two cases as illustrations: The first is that of a man now æt. seventy-six, who in his fortieth year was treated for the first time for bulbar stricture by gradual dilatation. When No. 14 (French) could be passed, the treatment was discontinued, but he was directed to introduce a bougie of that calibre at least once a week for some months afterwards. Eighteen years later he consulted the author about his old trouble, which was relieved in the same way and to the same extent as before, it being found impossible to dilate the canal to a greater extent. He was seen and treated occasionally during the succeeding three years, and then lost sight of, and he seems himself to have been so well satisfied with his condition that the hebdomadal bougie was neglected, and at length forgotten. In October, 1876, Dr. Dubuc was summoned to see him in the country, and found him in very bad condition. He had been staying in a somewhat marshy district, and had had a series of attacks resembling tertian ague, only the stages were neither regular nor well-defined. There was always severe shivering, followed by the usual hot stage, but no sweating, only a little moisture on the skin. His local medical attendant, who had been told nothing of his urinary troubles, treated him with quinine, looking upon the case as one of ill-defined paludal fever, and finding that he made no progress, recommended change of air. It then occurred to the patient himself that the mischief was possibly the Nemesis of his own neglect, especially as the urethra had by that time contracted so much that the urine could only be voided *guttatim*, and was constantly dribbling away. He had lost strength and appetite, become shrivelled and cadaverous, his mouth was always dry, the tongue covered with brown fur, and the saliva distinctly acid, and the attacks of fever recurred twice nearly every twenty-four hours. The urine was ammoniacal, very fœtid, and thick with pus and mucus.

He was advised to return to Paris, and the next day a No. 6 (French, about No. 2 English) gum-elastic catheter was passed after some difficulties and tied in. The quinine was repeated and milk diet ordered. So soon as the next morning there was evident improvement in all respects. No. 9 was then introduced and the bladder washed out daily. By the fifth day the feverishness had disappeared, the appetite returned and the vesical troubles so far reduced that the patient had need to micturate only every three hours, and the bladder could be emptied completely. The dilatation was pushed to No. 18, and then the patient was left to his own devices, but with the injunction to pass a No. 16 at least once a week. All went on well for a time, and then immunity begat the old carelessness with the result in 1883 of an attack of cystitis. The stricture had then retroceded to the diameter of No. 11, but in a week No. 21 could be passed after the usual slow gradation. The inflammed bladder was washed out with a solution of boracic acid, with unsatisfactory result, then with one of nitrate of silver (1 to 1200), which after a few repetitions was quite successful. And the patient, having at length learnt that his condition was really in his own hands, is now in his seventy-sixth year, a fairly healthy old man both generally and locally. (2) The second case has many points of similarity, the patient was first treated for stricture in his forty-fourth year by gradual dilatation, and was enjoined to afterwards pass a catheter regularly, not only to prevent recontraction but to thoroughly empty an irritable bladder with enlarged prostate. The injunction was disregarded, and five years later he came into the hands of the author, who performed internal urethotomy with Maisonneuve's

instrument. There was at the time of the operation the half of a broken catheter in the bladder, and which was passed spontaneously immediately afterwards. In December, 1887, he had several sharp attacks of fever from an unexplained cause, but from that time until the following spring his general health continued excellent, and the author saw nothing of him until the 26th of March, 1888, when he was sent for to meet his usual medical attendant in consultation. The day before, whilst on a railway journey, he had been taken suddenly ill, vomited, and was with difficulty got to his daughter's house and in bed when fever set in. The cause was at once recognised, and quinine had been prescribed before the consultation. There was found on joint examination a long, tight stricture, admitting a No. 11 with difficulty, purulent and highly ammoniacal urine, acute cystitis and consecutive fever. An ounce of castor oil was given, four grains of quinine every four hours, plenty of hot tea with a little rum, and large poultices over the pubes and loins. By the 27th, the high temperature had fallen to the normal point, pain had disappeared, and the skin was acting well. The patient was put on milk diet, and the quinine reduced to ten grains in the twenty-four hours. The next day a No. 11 (French) catheter was introduced with difficulty, and was tied in after the bladder had been well washed out with a solution of boracic acid. Every day a catheter of two mm. greater diameter than the preceding was left in, so that by April 5th No. 20 had been reached, when they were withdrawn, and a Béniqué passed once daily—from Nos. 40 to 44. So early as the 7th of April, the stricture had begun to shrink again, but this is no more than one expects after slow dilatation with tied-in catheters, however far it may be carried, it is never permanent. However, the end in view had been gained, all feverishness had ceased, the urine had become yellow and limpid, and micturition was no longer painful or difficult.

When seen recently the patient was quite well. He had been passing a sound every day, and washing out the bladder with a weak solution of boracic acid whenever the urine showed any trace of turbidity.

"In these two cases," says the author "it is clear that the source of the mischief lay in an irritated bladder partly filled with putrid and ammoniacal urine, of which a strictured urethra prevented the evacuation. The kidneys, in spite of the pain referred to them, seem to me to have had nothing to do with it, inasmuch as the mere emptying of the bladder sufficed to dissipate both pain and fever. Now that it is the fashion to refer every ailment to the presence of microbes, there is nothing unreasonable in invoking their agency here. So, is it the pyogenic bacterium of MM. Albaran and Hallé, the *bactérie septique* of M. Clado, or some other as yet unrecognized? I really do not know; but there can be no doubt that my patients have afforded every facility for their introduction and development within the bladder. They were under treatment for years before asepsia was dreamt of, and, therefore, never sterilized the elastic rods and tubes they introduced so often and then so rarely, perhaps seldom even, washed them. And yet it is to be noted that it was only when they neglected to pass them that the mischief became really serious. And did these microbes multiplying in the system produce the fever? I cannot believe it. Rather it may have been from the absorption of some toxic agent of their producing—some pyretogen, like that which Professor Hayem lately referred to before the Academy—a substance endowed with such virulency that the minutest quantity introduced into the blood sets up violent fever. But that is poisoning, not infection. And we may imagine that some such poison was contained in the putrid urine, and, so, when it was drawn off, the toxæmia ceased. But is is difficult to reconcile so simple an explanation with the hypothesis of microbian pullulation: and, after all, is there really any need to call upon the ubiquitous microbe or the special poison to explain the symptoms? A large and moderately sensitive viscus is filled with an intensely irritating fluid, so caustic from ammoniacal alkalinity that the mucous lining is in a state of incipient or actual sloughing, and not only with its internal surface bathed in this acrid fluid, but pressed into closer contact by the violent expulsive efforts its evacuation demands. We know what takes place when there is extravasation of urine; the intense inflammation, the sloughing, the gangrenous destruction of tissue, the horrible putridity of the sphacelating area; the hectic, the rapid pulse, the dry tongue and high temperature accompanying it—that, surely, is not due to microbian swarms, nor need we seek any ptomaine more virulent than the decomposed urine has itself developed into. Therefore, may we not say that these cases of special fever were simply the reflex of an inflamed bladder?"

Suppuration due solely to Chemical Agents (*Giornale Internazionale della Scienze Mediche*).—As a commentary on the foregoing article, and in support of the conclusions drawn from it, the observations of Torras y Pascual, may be read with interest. "For some years past the general opinion amongst pathologists has been that suppuration was always the result of microbian action, although some have ventured to sustain the belief that it may, also, be produced by inorganic, or at least by purely-chemical agents. In the year 1882 Orthmann confirmed this by experiments carried out with the most rigorous asepsia, and Councilman, working in a different way, but with the same care, obtained similar results. But since 1885 numerous experimentors, such as Strauss, Klemperer, and Scheuerlen, have stated that except in the presence of microbes it is impossible for suppuration to occur, and this in spite of the researches of Passet and Brewing having fully confirmed Orthmann's theory.

More recently, Rosenbach and Kreibohm have entered npon a new series of experiments, which not only support the latter's opinion, but have found fresh confirmation in the contemporary work of Grawitz and De Bary, who have demonstrated 'that chemical substances absolutely devoid of bacterial organisms—if only used in sufficient quantity and in animals susceptible to their action—will constantly lead to the production of pus.' They explain, also, why Strauss and Klemperer failed to obtain the same results, and that is because they used rabbits for their experiments. In these animals suppuration is induced with difficulty, and especially so with chemical agents; in fact, Grawitz and De Bary obtained exactly the same negative results with them as their opponents had done. Oil of turpentine, for instance, which readily causes the appearance of pus in the tissues of dogs, has no pyogenic action at all upon the familiar rodent.

Rosenbach generally used metallic mercury as the agent. This lodged beneath the skin of rabbits, to the extent of four to eight grammes; leads to the formation around it of a hard, yellow wall, which, when cut into, shows no trace of pus. But the same procedure in dogs leads to the formation, by the third day, of an acute abscess containing abundance of it, but no microbes, their absence being not only verified directly, but by the negative results of cultivation experiments. The method of insertion employed was that of Cohnheim—Councilman. Small glass bulbs containing the mercury are introduced by incision with, of course, all aseptic precautions beneath the skin of the animal, and left there until the wound has healed; then, after a rest of three or four weeks, they are broken subcutaneously by a blow, and the effects watched. The tubes and the mercury were sterilized at the moment of filling, at a temperature of 200° C. It might be objected, however, that even this did not entirely exclude the possibility of germ intervention; but this last difficulty has been got rid of by using antiseptic agents themselves as the irritant. Mikuliez, for instance, has set up active suppuration beneath the human skin by the injection of a strong solution (10 or 20 per 100) of nitrate of mercury. And, in the presence of microbes only, is it not their ptomaines, and not themselves, which induce the formation of pus?"

III.—NOTES FROM FRENCH JOURNALS.

By H. R. HATHERLY, M.R.C.S.

Addison's Disease (*L'Union Médicale*).—Drs. Babés and Kalindero, of Bucharest, have been prosecuting researches into the pathological anatomy of Addison's disease, more especially with regard to lesions of the spinal cord. The result of their labours has been to find in one instance chronic sclerosis of the cord, chiefly affecting the region surrounding the posterior root of the spinal nerves, and leading to neuritis. The demonstration of these lesions is of great interest, as it is possible that the trophic nervous symptoms in Addison's disease are due to them. This case will encourage further investigations in order to establish or throw doubt upon the opinion of Drs. Babés and Kalindero.

Treatment of Hydrocele (*L'Union Médicale*).—Dr. Richet recommends, after puncturing the tunico-vaginalis and evacuating its contents, the injection of the cavity with a solution of bi-chloride of mercury, one part to a thousand of distilled water. About 200 or 250 grammes should be injected, and the walls should be manipulated in order that the fluid may come into contact with the whole of the lining membrane. About 100 grammes of the solution should be left in the cavity. The effect of this corrosive sublimate is to set up an adhesive inflammation, and a few hours after the operation the scrotum becomes tense, red, and shining, as it might appear in erysipelas. It forms a hard, elastic tumour, and the local temperature is increased. After a time the tumour, which is due to effusion, gradually diminishes and disappears. The treatment does not affect the general health or produce salivation.

Medical Women at St. Petersburg (*L'Union Médicale*).—At a recent medical congress of Russian practitioners, 162 qualified ladies were present. Of these, thirty-three were attached to hospitals, twenty-three were in the service of the "zemslvo" of different provinces, eight were attached to municipalities, and two held appointments in manufacturing infirmaries. Of the 162 medical women, 105 practise at St. Petersburg, and the remainder in the provinces.

Fees to Medical Men (*L'Union Médicale*).—The Fifth Chamber of the Civil Tribunal of the Seine has recently decided, that a medical man having once fixed his fee may not raise it, should he afterwards discover that his patient was in a position to pay fees on a higher scale.

Cremation at Paris (*Les Progrès Medical*).—The first cremation, authorised in Paris, took place at the Cemetery of Père Lachaise on the 31st of January last, under the following circumstances :—Dr. Jacoby, a resident in Paris, and who is a member of the Tartar-Backir sect, had the misfortune to lose a son, and he desired, according to the rites of his religion, that the body should be burnt. Thanks to Dr. Jacoby being a foreigner, the authority he applied for was granted. At twenty minutes past twelve the body of the child, wrapped in a cloth of asbestos, was placed in the furnace. The temperature was gradually raised to 800 degrees, and at the end of an hour incineration was complete, leaving a residue of ashes, weighing about two kilogrammes. This is a first step for which the administration must be thanked. It is thought that in a short time cremation may be regularly practised in Paris, for the project has been under the consideration of a ministerial commission to elaborate rules; whilst the matter is actually being discussed by the Council of State.

Resection of the Small Intestine (*L'Union Médicale*).—A case has been reported by M. Anger, in which resection of the intestine was performed for a gangrenous strangulated femoral hernia. The patient was a woman, æt. fifty-eight, and was suffering from strangulated hernia of four days' duration. The operation disclosed that the sac and bowel were gangrenous, ten or twelve centimétres of intestine were removed, and the divided ends were sutured before reduction, which permitted some fœcal liquid to escape. After three days some intestinal matter and flatus escaped, but, nevertheless, and in spite of the formation of two abscesses, the patient recovered. M. Anger has several times observed the escape of blackish fluid from the peritoneal cavity after operation ; he attributes its presence to the effects of taxis, which is often injurious if an operation is necessary. Operation should always be resorted to after the failure of very gentle manipulation.

Creoline (*Bulletin Medical du Nord*).—M. Delbreil, resident at the Asylum of Bailleul, has been experimenting with creoline as an antiseptic. In a case of very obstinate ozæna he obtained excellent results; also in two cases of catarrhal angina. He uses it in a solution, seven drops being added to a litre of water. In the cases above referred to, the remedy was applied on several occasions before the disease was cured. In certain cases of ulcerating tumours, cancer of the neck of the womb, adenoma of the breast, a two per cent. solution of creoline removed all fœtor. In anthrax the good effects were less marked.

A New Method of Producing Local Anæsthesia (*Annales d'Orthopedic*).—In operations of short duration, M. Virturiez advises the use, as a local anæsthetic, of solutions of carbonic acid gas under pressure, of which Brown Séquard was the first to note the anæsthetic properties. Insensibility to pain is obtained by the projection, at a distance of ten centimétres, of the contents of two or three syphons of Seltzer water on the portion of the skin which is to be cut, and the analgesia lasts from four to five minutes. It gradually diminishes so that fresh irrigations may become necessary when a fresh operative period is commenced. It is generally when stitches are about to be applied that a renewal of the anæsthetic is required.

Salts of Copper in Tuberculous Disease of the Wrist-Joint (*Archives de Med. et de Chir. Pratiq.*)—Not long since it was generally held that poisoning by the salts of copper only followed its prolonged employment in small doses. This opinion is losing ground in the present day. Dr. Dumoulin, of Gand, has treated cases of croup successfully with copper in children from three to nine years of age in doses of as much as forty centigrammes daily ; and Dr. Luton, of Rheims, has cured tuberculous symptoms by salts of copper. Dr. Stocquart, of Brussels, has published the case of a young girl, æt. twenty-two, affected with tuberculous disease of the wrist-joint. The treatment consisted in the inunction of an ointment, formed by mixing four parts of sulphate of copper with thirty parts of vaseline. The skin was strongly irritated, but the swelling was reduced, and the joint became more visible. Afterwards the external use of copper was discontinued, but it was administered internally in the form of pills compounded of two centigrammes of neutral acetate of copper, and three centigrammes of extract of gentian. After a few days the patient was able to use the wrist-joint tolerably well. After six months some phthisical symptoms were observed in the right lung, and the wrist again became painful. The same treatment was resorted to internally and externally, and the patient was completely restored to health.

A New and Simple Mouth Speculum (*Revue Illustrée de Polytechnique Médicale*).—Dr. Maximilien Sternberg, of Vienna, has suggested a very simple contrivance for examining the mouth. The antertior portion of the buccal cavity, that is to say, the parts limited on one side by the mucous membrane of the lips and the cheeks, and on the other by the gums, is the seat of a variety of important diseases. Thrush, various syphilitic conditions, mucous psoriasis, ulcerative processes, new growths that need examination and treatment. The ordinary method of examination, which consists in pressing back the lips or the cheeks with a tongue depressor, or the handle of a spoon, is inconvenient, and serves rather to hide than to exhibit the parts which need examination. As for withdrawing the soft parts with the bent finger, or with some special instrument for stretching the corners of the mouth, the method is as clumsy as it is insufficient. He has, therefore, constructed a very simple mouth speculum with wire, which permits the anterior buccal cavity to be examined thoroughly and easily. It is on the principle of Brown's vaginal speculum, which is also made of wire, and is warmly recommended by Chrobak.

Fig. 1 shows the shape of the little instrument, about of a third of its actual size. It is made of a white metal wire, of three millimétres diameter, hard and not elastic. The bent position is introduced with the curve parallel to the row of teeth in the side of the mouth, in such a way as to stretch the cheeks.

Fig. 1.

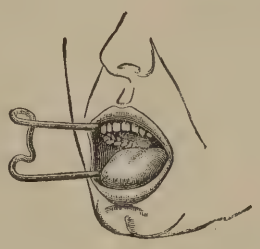


Fig. 2.

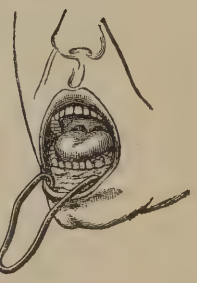


Fig. 3.

Fig. 2 explains the manner of applying the instrument. The other end bent in the form of a hook serves to explore the anterior position of the vestibule of the mouth. The mouth being shut or slightly opened, the lip is hooked down, and everted by raising or depressing the other extremity of the instrument, according to the lip examined. This extremity is bent in such a manner that it is adapted for all variations in the size of the mouth ; the free extremity has only to be held more vertically or more horizontally to obtain either a narrower or a broader speculum. Moreover, the hooked extremity will replace the ordinary instrument for separating the corners of the mouth. With this speculum every part of the external buccal cavity can be readily examined, or submitted to any kind of treatment ; it allows any diseased parts to be dressed, and every little ulceration can he exposed to view ; caustic can be applied, or the parts may be dusted with iodoform, etc. It might also prove very serviceable to dentists. It can also be used as a tongue depressor, if the patient is quiet and does not raise the tip of the tongue. Dr. Sternberg could have remedied this defect by adding a transverse piece, but decided not to do so on technical grounds, and also because the instrument could not be so easily cleansed. As the two ends of the wire are soldered with a substance which does not easily melt, the instrument can be disinfected by baking, or by passing it through the flame of a spirit lamp. A smaller instrument has been made for children.

Homeriana in Phthisis (*Journal de Medicine de Paris*).—The polygomma homeri, belonging to the order of Polygonaceœ, grows in Russia, and contains a green essential oil, which appears to be the active principle. Dr. Laskoff has tried the effect of an infusion of this plant in a variety of diseases of the respiratory tract, and especially in bronchitis and tuberculosis. Out of 112 consumptives in the first stage, ninety were cured. The symptoms which were most noticeably relieved were the hectic fever and the expectoration. At the same time

auscultation and percussion proved a sensible improvement in the pulmonary lesions. It seems that the plant acts directly on the bacillus, either by destroying its own vitality, or in rendering the pulmonary tissues unsuitable for its development. In later stages of the disease the results are naturally less conclusive, but if no cure can be obtained, the most distressing symptoms are much relieved, such as paroxysms of cough, expectoration, and profuse sweating. The plant is administered as a decoction, thirty grammes to a litre of water, which is to be taken during the twenty-four hours.

Soluble Phosphate of Iron *(Journal de Medicine de Paris)*.—M. Jolly has contributed an interesting and elaborate article, showing that the result of his experimental researches is, that iron only exists in the blood under the form of phosphate. The following are his conclusions: The success of treatment by iron, other than phosphated, is subordinate to the richness of the organism in circulating alkaline phosphates; but as no indications can instruct the physician as to the amount of phosphatic alkali in his patient, he can only count upon the benefit of ordinary ferruginous medication. In such case is it not reasonable to prefer a phosphated preparation of iron. M. Ch. Lecerf takes the same view as M. Jolly; and three years ago, at the request of Dr. Viry, he undertook the discovery of a soluble preparation of iron, of constant composition, and capable of being easily assimilated. It is known that the phosphates of iron are insoluble; they are only absorbed through the intervention of the acids of the stomach, which are thus diverted from their special functions to promote the transformation and digestion of food. These conditions of decomposition are not peculiar to the phosphates; they exist for all insoluble preparations of iron, and their prolonged use nearly always induces digestive difficulties. The salts of iron which least affect digestion are those which are soluble in acids of organic origin; but these preparations are only rendered soluble by the decomposition of oxide or of pyrophosphate of iron in the tartrates or citrates of ammonia or potash. These oxides or phosphates of iron are dissolved in a moist state immediately they are precipitated; the solutions thus obtained are dried on glass plates, and supply the flakes which are usually found in commerce. This brief glance at the mode of preparing these iron compounds, show how difficult it is, if not impossible, to obtain products of a stable composition. It became, therefore, desirable to find a ferruginous preparation which should possess always identical properties. In Dr. Lecerf's researches, he only studied the phosphates, being convinced of their value in anæmia, and of their superiority over all other salts, provided that it was not necessary to borrow materials for their solution from the organism. He found that there exists a combination of iron with citric acid, which is very soluble in water, the solution having a neutral reaction on litmus paper. This ferruginous citro-phosphate crystallises in very small crystals belonging to the fourth system, and assumes a rhomboid or hexagonal form. They are slightly raised tablets or lozenges, or in which the angles terminating the longer axis are more or less truncated. This salt, the composition of which does not vary, owing to its crystalline form, offers as a phosphate a peculiarity which may be usefully noted, for it is a rare exception. Generally the ammoniacal citrate is used as a solvent for salts of iron, and all soluble phosphates may be dissolved in this agent. The salt I have described, although soluble in water, is very slightly so in the citrate of ammonia, and if solution is effected by heat, is precipitated when cold. Dr. Lecerf believes that this new salt will prove serviceable in cases where iron is indicated. He adds that this salt, which he has taken himself, and prescribed for many others, does not produce constipation.

IV.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

Sulpho-ichthyolic Sodium in Gastro-Intestinal Catarrhs.—In the *Vratch*, Nos. 9 and 11, 1889, p. 222, Dr. Alexandr P. Favitzky, of St. Petersburg, writes that certain emphatic statements by Drs. Unna, Nussbaum, Lorenz, and Blittersdorf, have induced him to try the internal use of sulpho-ichthyolate of sodium in twenty-three cases of gastro-intestinal affections in Professor D. I. Koshlakoff's clinic. Of the twenty-three cases, two referred to acute gastric catarrh, four to chronic ones, two to acute enteritis, and fifteen to chronic intestinal catarrh. The drug was given in the daily dose amounting to from six to fourteen grains. The duration of the treatment in individual cases varied between one and five weeks, being mostly equal to two or three. Dr. Favitzky's main conclusions may be briefly given as follows:—1. The best results are obtained from the ichthyolic treatment in acute gastric catarrh; less satisfactory ones in chronic intestinal catarrh; still less effective the drug proves to be in chronic gastritis; and by far less in acute enteritis. 2. Both of the cases of acute gastritis yielded to the treatment in a couple of days. 3. In chronic intestinal catarrh the drug diminished only meteorism and sensation of weight, and pain about the abdomen, while diarrhœa, alternating with constipation, and other symptoms, remained almost unrelieved. In one case diarrhœa even increased, and vomiting supervened. 3. Of four cases of chronic gastric catarrh, in three motions became more regular, but all other symptoms showed no improvement, while one case distinctly grew worse. 4. Of two cases of acute enteritis, in one a slight amelioration at first set in, but subsequently diarrhœa increased and vomiting added itself, the symptoms rapidly disappearing under the influence of bismuth with opium. In the other case, diarrhœa somewhat lessened, but abdominal pain persisted for a long while. 5. Of accessory effects produced by ichthyol, there were observed only vomiting (in two cases) and sometimes short-lasting eructations, appearing soon after the ingestion of the drug. 6. On the whole, ichthyol is by far inferior to many ordinary means employed in treatment of the affections in question. Clinical evidence does not justify us in regarding ichthyol as "a powerful anti-catarrhal means."

On the Biological Action of Fluoride of Sodium.—In the Polish weekly *Gazeta Lekarska*, No. 12, 1889, p. 240, Dr. O. Hewelke, of Warsaw, publishes a preliminary communication on his experimental researches carried out in Professor L. I. Tümas's laboratory, in order to study the biological action of fluoride of sodium (Na Fl). The experiments are divided into three groups, one of which refers to anti-fermentative properties of the salt, another to parasiticide ones, and the third to its physiological action on the animal system. The outcome, briefly given, is this:

a. The anti-fermentative action.—1. A 1 to from 100 to 350 solution of the fluoride inhibits altogether the development and growth of the yeast fungus. The fermentation is markedly retarded or arrested even by a 1 to from 600 to 2,000 solution. An inhibitory influence of the salt may be still noticed, even when dilution oscillates between 1:3,000 and 1:8,000. The effects become *nil* only when the proportion sinks down to 1:16,000. 2. The fluoride manifests a similarly powerful inhibitory action in regard to alkaline fermentation of the urine. While under normal conditions the urine passes into decomposition already in four or five days, a urine mixed with the salt in the proportion of 1:1,300 preserves its acid reaction for fourteen or fifteen days (though the fluid becomes turbid about the seventh day). When the proportion amounts to 1:650 or 1:100, the urine remains unchanged for twenty-one and thirty days respectively. The proportion of urea (which in a normal urine sinks down to a half of the initial one in a fortnight) in a fluoride (1:150) urine is found to be unaltered, even after the lapse of three weeks. 3. The salt possesses a similarly energetic inhibitory action in regard to putrefaction. When mixed with the fluoride in the proportion of 1:80 or 1:170, the blood remains sweet for weeks, its decomposition being distinctly delayed, even when dilution amounts to 1:640.

b. The parasiticide action was studied on pure cultures of certain non-pathogenic (*bacillus fluorescens*, *bacillus prodigiosus*) and pathogenic microbes (typhoid bacillus, bacillus of anthrax, Finkler-Prior's rod, *bacillus fœtidus*, *pneumococcus*, *streptococcus pyogenes*, and *staphylococcus pyogenes aureus*). The drug was added in varying amounts to such nutrient media as broth, peptone gelatine, and peptone gelatine agar. 4. When present in the proportion of 1:150 or 1:200, the salt totally prevents any growth of every one and all of the mycotic species. The effects are still pronounced, even in the presence of 1 of Na Fl in 300 of the medium, and may be still discernible even when the proportion does not surpass 1:300. 5. In general, the fluoride seems to act on pathogenic microbes more powerfully than on non-pathogenic ones. Thus, the growth of the *staphylococcus pyogenes aureus* and bacillus of anthrax is prevented altogether, even when the medium contains only 1 of the salt to 300.

c. The physiological action on the animal system was studied in dogs and rabbits. The fluoride, in the shape of a 2 or 2.5 per cent. aqueous solution, was either injected under the skin or into veins, or introduced into the stomach by means of a gastric tube. 6. When administered hypodermically in small doses (0.02 or 0.03 gramme), the drug does not give rise to any general phenomena, beyond an occasional slight and short-lasting tremor of the whole body. The injection, however, always causes an intense local pain, and (in spite of all antiseptic precautions) is followed on the next day by strong local congestion and œdematous swelling; while about the third or fourth day a rather large, though superficial, slough falls off, to leave an ulcerating surface. 7. When introduced into the stomach, moderate doses (0.04 to 0.05 per each kilogramme of the dog's weight) give rise to salivation, vomiting, general excitement, and tremor, followed by prostration, the symptoms passing away in the course of two or three hours. Larger doses, varying from 0.09 to 0.1 per each kilogramme of the animal's weight,

cause (beside salivation and vomiting) diarrhœa, accompanied by violent tenesmus and intestinal hæmorrhage. The respiration and pulse are at first accelerated, but subsequently retarded, to gradually stop altogether. Of nervous symptoms, there are observed general tremor, followed by extreme prostration, decrease of reflexes, and in one or one hour and a half palsy of the hind limbs. In a couple of hours the animals dies from exhaustion. 8. At the necropsy there are found numberless ecchymoses and extravasations in the stomach (especially about the pyloric region), duodenum, jejunum, and rectum, and extreme contraction of the whole heart. 9. Intravenous injections (in similar doses) are followed by the same train of symptoms.

Professor Peter Mueller on Ovarian Cancer.—At a recent meeting of the Medizinisch-Chirurgische Gesellschaft des Cantons Berns, Professor Peter Mueller, of Berne, has read (*Correspondenz Blatt fuer Schweizer Aerzte*, No. 5, 1889, p. 147) an important paper on the pathology and treatment of ovarian malignant disease. The illustrious author draws attention to the fact that the disease occurs far more commonly than was thought. During the last decennium or so, as many as twenty-five cases of the kind have come under his observation in his clinic. Medullary cancer is met with more frequently than a cylinder-celled variety. In two-thirds of the cases malignant disease is combined with cysts. A one-sided carcinoma is observed as commonly as a both-sided one. The tumours vary exceedingly in their size. As to their shape, sometimes they preserve the outlines of an ovary, sometimes they are globular, while now and then their boundaries are diffuse and indefinite. Their surface is mostly knobby; this feature, however, cannot possibly be regarded as characteristic of carcinoma, since there occur, sometimes, fairly smooth malignant tumours. As regards their consistence, they are either equally dense, or firm areas alternate with softer ones. At all events, "dense consistence associated with knobby surface points strongly to ovarian cancer."

The *etiology* is yet very vague. Of twenty-two patients of Dr. Mueller, eighteen were married and only four single. The proportion is identical with that as found in uterine cancer. All the women came under observation either in the course of climacteric change of life or on the eve of it, or during a *post*-climacteric period.

Symptomatology.—The development of ovarian cancer is often latent, but in some cases the disease develops rather suddenly. In all cases, however, the growth becomes ultimately rapid. The facts may be easily explained by the circumstance that the tumours in question often arise as benign cystoid new growths, and only later on assume a malignant character. Their course is not unfrequently associated with attacks of localised peritonitis. Menstrual disturbances (amenorrhœa, menorrhagia, irregular floodings) are met with in earlier stages almost invariably. Defæcation and micturition are interfered with very frequently. On palpation, the tumours prove to be, as a rule, tender. They are often found immovable, which depends upon the development of dense adhesions and early ascites. Œdema of the external genitals and lower extremities as well as general dropsy with ascites represent a not uncommon occurrence. Ovarian carcinoma is characterized, further, by frequent early metastases.

The *duration* of the disease varies between a few months and two (or even more) years.

The *diagnosis* is based upon such particulars as the presence of climacteric changes, both-sided character of the disease, firm knobby surface, early development of ascites and adhesions, rapid growth, emaciation, serious menstrual changes, and metastases.

The *prognosis* is exceedingly unfavourable, since in later stages an operative *treatment* either proves impracticable, or, when attempted, the operation cannot be completed; or, when completed, is followed by recidives at an early date. As a matter of fact, out of twenty-two cases of the author an operative treatment could only be resorted to in eight, and only five of the eight ovariotomies could be completed. Of the five patients, two died shortly after the operation, while only one of the other three remained free from recidives. Hence, only an early operation may, possibly, promise some success. In view of the important fact that ovarian cancer frequently arises as an apparently benign new growth, the only rational therapeutic plan is to remove every ovarian tumour met with as early as possible.

On a case of Hypospadias simulating Hermaphroditism.—Dr. Alexander I. Voitzekhovsky, of Elisavetgrad, describes a singular instance of hypospadias of a high grade (*Proceedings of the Elisavetgrad Medical Society*, 1888, No. 5, p. 89), found in a recruit, a peasant of twenty, named Poderïak. An inquiry instituted by the author elucidated the following curious particulars: At his birth the patient had been recognised by his parents, jointly with a rustic parson, as a girl, and, accordingly, christened as such. However, on closer examinations performed repeatedly by local peasant women, the latter, anyhow, arrived at the conclusion that the child was a boy. Hence a special female deputation was appointed, which brought the infant again to the priest, and ultimately persuaded him to re-baptise it under a more appropriate male name, Onüfry. After all, their client proved to be actually a boy, since in course of time, during childhood, he commenced to show a distinct aversion to the society of girls, and kept company only with boys; while on reaching his seventeenth year the state of his feelings was quite reversed, that is, he commenced to feel a pronounced inclination towards the better sex, and to have frequent voluptuous dreams, with pollutions; coition, however, proved impossible.

At the examination by the author, Poderïak was found to be a healthy looking, athletically-built, peasant lad, with a yet scanty hair growth on the upper lip, rough voice, male breast, and normally-developed organs of the respiration, circulation, senses, etc.; in fact, with everything reproachlessly normal except his genitals. When examined in an erect position, the patient seemed to have neither penis nor scrotum; the circumstance was partly dependant upon an unusually prominent stand of his pubes (thickly covered with dark curly hairs), which, in its turn, resulted from the patient's habitual method of micturition. When he tried to pass water in the usual male way, his urine would stream downwards in a straight jet, exactly like in women, and, consequently, would wet his drawers and all. Hence, to prevent the unpleasant accident, and to obtain a more or less arched jet, he was compelled to throw his body far backwards and his pelvis forwards, and to bring his abdominal press into strong contractions. At the examination of the patient in recumbent posture, his scrotum was found to be split along the median line into two small-sized fleshy empty sacs, most closely resembling female major labia. The folds, measuring about five centimetres in length, were covered on their outer aspect with scanty hairs; while their inner surface was lined with a pink mucous membrane. Midway between the folds there was seen a transversely elongated opening, one centimetre in diameter, leading into a shallow *cul-de-sac*, similarly lined out with a rose mucous membrane. Between the lower edge of the pubes and the upper one of the intrascrotal hole there was situated a rudimentary penis, about as thick as a finger, and measuring in length along its upper surface five centimetres, and along the inferior only one centimetre. Though furnished with normally-shaped glans and prepuce, the member might be at first glance mistaken for a clitoris, since there was not seen any trace of a urethral orifice. The latter was situated (in four centimetres from the base of the penis, and in eight from the anus) on the lower wall of the *cul-de-sac*. It easily admitted a good-sized metallic catheter, which penetrated into the bladder at the depth of six centimetres. On both sides of the orifice, under the lateral walls of the sac, there were felt two cords running obliquely from the base of the penis towards the anus. The structures were undoubtedly nothing else than rudimentary cavernous bodies of the penis. The inguinal canals contained each a rudimentary testicle, having the size of a small hazel-nut, and situated in six centimetres upwards from the inguinal ring. Both of the testicles could be made (by pressure) to descend into the corresponding scrotal sacs. During pollutions the sperma was seen to flow out of the urethral orifice. When passing into the state of erection, the penis assumed the stage of a hook or arch, the glans pointing downwards. That circumstance, in association with the shortness of the member, made any sexual intercourse impossible.

At first Poderïak's case had been diagnosed by some practitioners as an instance of pseudo-hermaphroditism. But Dr. Voitzekhovsky's careful examination, as sketched above, established the fact that they had to deal with a rare case of extreme hypospadias simulating the former evolutionary defect. In practical regards, however,—in regard to the question whether the patient was fit for military service or not—the said distinction was unimportant, since in either case the man was to be discarded from the list of recruits.

Iodoform in Burns and Scalds.—In the Moscow therapeutic weekly, *Novosti Terapii*, No. 10, 1889, p. 147, Dr. Afanasy S. Shtcherbakoff, of Rostov-on-Don, warmly recommends the local use of iodoform as an excellent and innocuous means for burns and scalds of any degrees and kinds, both in adults and children. He employs an ointment made of one drachm of iodoform to one ounce of white vaseline. Having freely spread the salve over a sufficiently large piece of iodoform gauze, he applies it to the part injured, covers the gauze with a layer of hygroscopic cotton wool, and fixes the dressing with a roller bandage. Having resorted to the treatment in a large number of cases, the author never yet observed any unpleasant accessory symptoms pointed out by Koenig, Winiwarter, etc. Hence, he emphatically suggests to give an extensive trial to the method which, in addition to its being effective and safe, is very simple and convenient.

On the Treatment of Diphtheria.—In the *Novosti Terapii*, No. 10, 1889, p. 145, Dr. Afanasy S. Shtcherbakoff says that he obtains very good results from the following treatment of diphtheria: 1. The throat is brushed, several times daily, with a glycerine (two drachms) solution of boracic acid (fifteen grains) and *oleum martis* (one drachm). 2. Steam inhalations of lime water are made every ten minutes. 3. In addition, the following gargle is administered:

℞. Iufusi herbæ salviæ..... ..... llj.
Biboratis sodæ ..... ℥j.
Mellis despumati ..... ℥ss.
M. To use frequently.

4. Internally, antipyrin, in full doses, twice daily, is given. 5. A liberal diet with wine is ordered. To secure successful results, however, the treatment should be resorted to as early as possible.

V.—OBSTETRICS AND GYNÆCOLOGY.

AT a recen tmeeting of the Philadelphia County Medical Society Dr. JOSEPH PRICE read the following paper on **Gonorrhœal Diseases of the Uterine Appendages.** The attitude of numbers of professional men who express eitherin credulity or absolute disbelief in the causative relation between gonorrhœal disease in women and pyosalpinx and abscess of the ovary, is sufficient justification for a still further discussion of this subject. My views upon the matter are based neither upon theory nor upon microscopic examination. They are from surgical experience only, or from confessions of men whose wives have been diseased by them. From the time that Noeggerath first formulised his belief upon this subject it has been smiled at, contradicted, or controverted, but never in its essentials disproven. In his earlier paper, Noeggerath fell into the common error of enthusiasts, that of attributing too much to his discovery, and claiming too wide a pathological field as the sequelæ of this trouble. This, without doubt, led many otherwise fair-minded men to pass over his paper as unworthy of attention, thus impeding the progress that otherwise would have followed its discussion and the observations based upon its claims. In taking up most later surgical works we find the etiology of ovarian and tubal disease considered from this standpoint omitted—a missing link, or differentiated out of sight. This is wrong. As early as 1877, Mr. Lawson Tait and others insisted upon the relation existing between gonorrhœa in man and tubal disease in women. Noeggerath antedated him about five years. Mr. Tait also insisted on its causative relation to perimetritis, this as late as 1883. Schœder, in the early editions of his "Gynœcology," insisted upon this as bearing a causative relation to ovarian and tubal troubles. In the very latest edition he says:—"Gonorrhœa, in the highest degree, appears as a causative disease in women." Sänger also is an ardent advocate of the same belief. He is wrong, however, I am persuaded, in holding that the gonorrhœal infection is alway late in revealing its presence in the woman when transmitted by the man. To this subject I shall refer later. Without further collation of authorities upon this subject, I shall proceed briefly to its discussion. Whether or not the presence of the disease can be diagnosticated absolutely by the presence of the gonococcus of Neisser, is of small importance, if by the chain of common evidence we can connect the presence of one disease with the other in their sequence. If, on discovering tubal disease in a woman who has never aborted nor had any of the diseases incident to childbed, who has been healthy up to a time, after which vaginitis has occurred, contracted from her husband, after which the woman from time to time experiences increasing pelvic pain, losing strength and weight, the case, it seems to me, is made out, save as quibbling may dispute it. This history occurs in most of the cases I have handled. Of the many cases that have come under my observation, I choose the following as illustrative and typical:—A young married woman, one child. Her recovery from childbed excellent; no gonorrhœal infection of the child at birth. Some months afterwards she had inflammation of the vulvo-vaginal glands, with suppuration. Later she appeared with abdomen tense and painful, enlarged tubes and ovaries, tender and painful on the slightest movement or pressure; she had lost in weight and strength. Her husband confessed to the infection of his wife. The diagnosis was made of gonorrhœal pyosalpinx, and operation proved the correctness of the opinion. Both tubes contained pus, were cheesy and friable, the ligatures cutting through all but the vessels. The abdomen was full of fluid, and the intestines gave evidence of acute peritonitis. The history here is complete, leaving no possible doubt as to the origin of the disease. The early infection here exhibited is at variance with the views of Sänger, and shows that his statements are not necessarily correct, or accidentally correct, if at all so. There is no sufficient reason why this infection should not be early. I incline to the belief that the disease originates early, but may be slow in its progress, and thus escape attention and discovery.

The discussion on **Gonorrhœal Disease in Women** was opened by Dr. J. WM. WHITE. He said: I had not intended to take part in the discussion, but as you have kindly asked me, Mr. President, I will say that neither the paper read this evening, nor anything else that I have heard or read, has convinced me of the frequent relation between tubal disease in the female and gonorrhœa in the male. I believe that such cases as Dr. Price details are defective in some important point. They assert that the occurrence of suppurative disease of the tubes is a consequence of preëxisting disease in the husband, or of the individual with whom the woman has had connection. It seems to me that by a similar process we could demonstrate the relation between gonorrhœa in the male and mitral disease, cataract, or other ailment in the woman. This is another instance of the *post hoc ergo propter hoc* line of argument. It is carrying a theory, which has an undoubted basis in fact, to great extremes, and, as regards the views of Noeggerath, to ridiculous extremes. His sweeping assertions in regard to the persistence of latent gonorrhœa in the male, and his theory that women having connection with men who had ever had gonorrhœa, are constantly rendered barren, or if they do conceive do so only to abort, and that such women are the constant subjects of ovarian and tubal disease, are, I believe, contradicted by the practical experience of every surgeon and general practitioner. I have had rather exceptional opportunities for examining cases of gonorrhœa in the male. Many of these cases have married, and the majority of them had, and still have, healthy wives and healthy children. While there is undoubtedly some foundation of truth in regard to this matter, and while there are undoubted instances of this form of infection, and while gonorrhœa in the male may produce vaginitis, cervicitis, endocervicitis, and pyosalpinx, yet it seems to me that these occurrences are exceptional, by no means so frequent as is claimed, and certainly not the rule. Dr. Price does not assert his belief in these views, but I am surprised at the favourable tone of his comments upon them. I have always regarded the theories of Noeggerath as examples of the extremities to which an enthusiast may be led, and only to be fitly characterised by the somewhat strong terms of absurd and ridiculous. Certainly in my personal experience I have never seen anything to warrant a belief in the relation of these two conditions, as cause and effect, in any very large proportion of cases. The pathological side of the subject, to which Dr. Price merely alludes, is, after all, the one of greatest importance. If gonorrhœa in the male is, as Noeggerath describes it, latent in a majority of cases, it must be that it depends on a peculiar microörganism, and the invariable association of the gonococcus, or some other low form of animal life, with gonorrhœa must be demonstrated. In this "latent" gonorrhœa, described by him, there may be no symptoms, and nothing which would enable the practical specialist in venereal diseases to recognise the presence of the affection. There must then be demonstrated at least that some microbe is present which belongs to gonorrhœa and produces the disease whenever it develops in the urethra. In order to demonstrate the relation between latent gonorrhœa and these diseases of the tubes and ovaries, some such microörganism should also be found in these latter cases. I believe that in certain persons the nidus for the multiplication of the organism is exceptionally favourable. In such cases it rapidly multiplies and tends to spread, and increases the severity of the disease. These are the cases, I doubt not, in which tubal disease follows infection. That it is frequent, or that there is demonstrated any invariable relation between the existence of the microörganism and such disease in the female, I do not believe has been proven. The clinical relation of the two conditions being, therefore, to my mind at least, not established; and the pathological evidence being entirely wanting, I am compelled to reject as unproven and unfounded the theories which so closely associate an antecedent gonorrhœa in the male with so many forms of disease of the uterine appendages. I believe these theories to have been harmful in their influence upon gynæcological practice in having given apparent justification to a large number of operations, a fair proportion of which I do not doubt will be shown within the next ten years to have been unnecessary and injudicious.

Mr. HOFFMAN said Dr. White's remarks show how two persons interested in the same subject may arrive at entirely opposite conclusions. Dr. White has had abundant experience in dealing with these cases, especially in the almshouse, in a class of people where he would be supposed to see the relation between gonorrhœa in the male and certain diseases of the female, especially in the uterine appendages. He, however, fails to connect the two in any marked degree. Bernutz has written a very remarkable work, appearing in the New Sydenham publications a few years ago, and the conclusions which he reaches are diametrically opposed to those of Dr. White. Bernutz, in examining ninety-nine cases of pelvic peritonitis in women, concluded that twenty-eight were distinctly attributable to gonorrhœa; forty-three were traced to childbirth, and eight of the childbirths were abortions.

If you take away the forty-three cases, due probably to infection from some incidental cause, we have remaining fifty-six cases, of which twenty-eight, or 50 per cent., were traced not only theoretically, but by a post-mortem examination, to gonorrhœa, all other causes being eliminated. Taking his statistics of the twenty-eight cases which he considered analogous to orchitis in the male, we have twenty menstrual and eight traumatic. The causes of traumatism were, in three, venereal excesses; two, syphilis of the cervix; two, the introduction of the sound; and one, the use of the cold douche during menstruation. I have myself seen this condition so frequently that I cannot regard it as an unusual accident, and all the less after reading the remarkable record of which I have here a note, can I think that it is accidental. So far as Noeggerath's views are concerned, I think that Dr. Price sounded their value. His views are extreme, and we may as well, now as ever, regard them as extreme. There is no use in laying down the principle that only one cause can produce the disease. The original paper of Bernutz, published in 1857, antedating the publication of Noeggerath, is to me convincing. Whether or not we always find the gonococcus of Neisser is to me a question of indifference, and not always decisive. We know very well that one microbe will, by its presence, crowd out another. When we open the abdomen and find the tubes filled with stinking pus, in which putrefactive changes have taken place, I am not surprised that the gonococcus is not found, its place being taken by some other form of micrococcus. In such cases I do not believe that the gonococcus is diagnostic.

Dr. WHITE said the statistics of Bernutz and Goupil, to which reference has just been made, are quite familiar to me, although it was my impression that they were published in 1861, not 1857. This is quite a different question from the one I was discussing. These were prostitutes of the lowest class undoubtedly infected with gonorrhœa. The proportion of these cases in which pelvic peritonitis occurs is considerable. This is entirely distinct from the cases in which you depend upon the history of a previous and often a long distant gonorrhœa in the husband, to explain ovarian and tubal disease in the woman, but in which you have no consecutive history of true gonorrhœal infection of the female. It is to this that I object, not to the assertion that pelvic peritonitis and pyosalpinx *may* occur in some cases of gonorrhœa, particularly in women of the lower classes. Dr. Hoffmann has missed the point of my remarks. I have quoted the statistics of Bernutz in a paper which has been accepted by the *British Medical Journal*, although not yet published. They simply present the records of two of the French hospitals to which the lowest class of French prostitutes are admitted, women broken down in health, and the subjects of virulent forms of gonorrhœa. This is entirely distinct from the proposition of Noeggerath, which connects not only existing disease in the male, but also precedent disease of which all active symptoms may have disappeared, with certain conditions of the female, barrenness, tendency to abortion, and diseases of the uterus and appendages. It is to that I object, and not to the assertion that in a large proportion of cases these complications occur in prostitutes with well-marked gonorrhœal infection.

Dr. M. PRICE said in regard to the statement of Dr. White that these diseases are more peculiarly connected with these hospitals and these women of low character, I would say that all the cases that I have had in private practice, six or eight in number, have been not only of the better class, but among the best women of this town. The specimens from one of these cases I should like to show to the Society. This pair of tubes is unquestionably gonorrhœal. I treated the man some ten years ago. I afterward treated his wife for old-fashioned cellulitis and peritonitis. She has had five attacks during the last eight years, in every one of which there was high temperature and quick pulse, with the pelvis filled with inflammatory masses. These inflammatory conditions were cured about as the electrician cures pelvic abscess and pyosalpinx. The health and vigor of the woman were sufficient to cause absorption of the liquid portion of the pus, and for a time the disease was kept in abeyance. Four or five days ago I removed from this woman's pelvis a pint of pus of the most offensive character. This was her last struggle, her last effort to get rid of it. She was unequal to the task, and was slowly dying of a septic condition. The symptoms were of such an urgent character that I opened the abdomen and removed both tubes. There we have a marked case of pyosalpinx unquestionably of gonorrhœal origin. Out of the eight or nine cases of pelvic trouble I have had occasion to operate on, in all but one I could distinctly trace a gonnorrhœal origin. In every one I had treated the man for gonorrhœa. From that day not one of these women bore a child. They always complained of symptoms of pelvic trouble, pain on pressure, pain on movement, and pain on slipping or jarring. The trouble in these cases was just as certainly gonorrhœal in origin as that any trouble existed.

Dr. J. M BALDY said the views of Noeggerath, Burnutz, Sinclair, and others, including the author of the paper, are very extreme, and grossly misrepresent the facts. Venereal disorders in men are not so frequently the cause of pelvic inflammatory diseases in women as these men would have us believe. I think with Dr. White, that in order to settle this question, we must have more than mere clinical evidence; we must also have pathological research and experimentation. So far as the clinical aspect of these cases is concerned, I may say that the vast majority of them coming under my observation are not women who have never been pregnant. There is almost always a history of abortion or labour, with septic trouble at that time. Sinclair has demonstrated that most of these patients have the gonococcus present in the secretions of the vagina and uterus, and for that reason he has considered the disease to be of specific origin; in some cases where the gonococcus was not found he still believed the disease to be of specific origin, supposing that the gonococcus had been crowded out by other forms of micrococci.

Dr. PRICE said we now care nothing, or next to nothing, about what Noeggerath wrote, for we possess sufficient clinical material in our own surgical experience to prove that gonorrhœa, and nothing but gonorrhœa is responsible, except in rare instances, for the pathological conditions with which we surgically daily deal. Dr. Deaver and Dr. White have proven this in their own daily experience by sections for pus tubes due to gonorrhœa. In the class of patients met at the almshouse, among the males there is no question as to the great prevalence of gonorrhœa. Among the females it exists about as often. In his description of a case, in the *Medical and Surgical Reporter*, December 15th, 1888, Dr. White says: "Two small patches of ulceration existed on the floor of the membranous urethra, each measuring about two lines in diameter. This case may be taken as a type of the many cases of which no microscopical examination can be made, or at least is made. Further on, in this same paper, a troublesome case of gleet is noticed, having existed for several years. That the presence of gleet is a real source of infection is no longer doubted. Why then dispute that an existing cause of trouble must stop short and lose its virulence as soon as it touches the female organs? Among the complications of gonorrhœa in the male, noted and admitted by good authorities, are peritonitis, subperitoneal abscess, perinephritic abscess, together with the only too frequent lesions of the bladder, prostate, and kidneys. Now, if peritonitis can occur with gonorrhœal origin through the roundabout road of the vasæ differentes and seminal vesicles, how much more likely is it to occur in women by the direct route from the vagina, through the uterus and Fallopian tubes to the peritoneal cavity? Sinclair, in his little book, faulty and full of shortcomings as it is, proves without doubt that most of the cases of pelvic peritonitis attributed by him to gonorrhœa are rightly so ascribed. Out of fourteen cases cited, in three the diagnosis is not proven, and may be regarded as doubtful. It is the danger of every enthusiast to see too much in his theory. This was the cause of the slow reception of the theory advanced by Noeggerath. Noeggerath's view is not a new one; it is only the wide application that causes it to differ from opinions held long before. I can readily understand why the profession should be practically ignorant of the ravages of this disease. Nothing short of a rigid special training will enlighten the profession in this field. Again, it is additionally strange that in this age of boasted progress the profession should question the great prevalence of gonorrhœa in the female, knowing it to be so very common in the male. Many important investigations have been made by Bumm, Sänger, and Oppenheimer. Donné, in 1844, discovered a parasite in the urethral discharges, which he named trichomonas vaginalis. It is folly here to allude to the numerous small beasts that have been found in genital discharges—forerunners to Neisser's gonococcus. The latter presented his researches just at a time when the world was prepared to accept anything in the shape of a small beast. Clinically it is not necessary to determine the presence of the gonococcus to establish the infective virulence of gonorrhœal pus, and this I believe is in accord with the many researches on the subject. Considering it from a pathological and surgical point of view, a clear history of recent impure sexual contact, in the presence of certain well-known clinical features, ignoring the presence or absence of gonococcus, will be accepted as sufficient evidence of the vice, and responsible for a large number of grave pelvic diseases, a much larger number than puerperal fever or syphilis are responsible for. I think that I could easily prove my position by using the clinical evidence from my own college mates. I have taken pains to look them up, and investigate their histories, that I might draw some conclusions. I think that I can prove a casual relation in that way, having personal knowledge of their contamination.

Dr. H. A. Kelly exhibited the specimen of a **Carcinoma of the Corpus Uteri.** Mrs. F——, æt. forty-five years, married, applied to him in October, 1888, for the relief of persistent uterine hæmorrhage. She was the mother of two children, twenty-three and nineteen years ago. Her health was always good until 1886, when the present trouble began, as if her menstruation was appearing too frequently. The discharge soon

became constant. The only impression made upon her general condition was a marked anæmic, sallow cast of the skin. Aside from this, she suffered from an agonizing pain in the right ovarian region. The uterus was anteflexed, very large, measuring 3¾ inches in length, choking the pelvis, emitting a sanious, fetid discharge. She was admitted to the Kensington Hospital, and a handful of débris, looking like a sloughing fibroid, removed by scraping. This proved to be cancerous, and in the presence of Drs. D. Emmett, Vanness, and Gramm, assisted by Dr. H. Robb, I removed the uterus by vaginal hysterectomy. On account of the severe pain she had felt since February last, and the impossibility of outlining the structure in the choked pelvis, he feared some infiltration into the broad ligaments, a contra-indication to vaginal hysterectomy. He therefore made a preliminary exploratory abdominal incision, passed his fingers in carefully, explored the pelvis, found it free, got his bearings for the subsequent operation, and closed the incision in ten minutes. The operation was done with great difficulty, owing to the great size of the uterus. The worse bleeding came from the incision in the vaginal walls. The tissues above this were tied off in small bundles with silk ligature. He tried to follow the plan advocated by his friend, Dr. Dudley, of Chicago, of clamping the vessels, but the uterus was too large, and he could not introduce his fingers and fix the clamp at the same time. The right side was freed first, the uterus delivered, and the left side pulled without the vagina, and the left broad ligament tied off, and a uterus freed the size of a three-months' pregnancy. The vagina was packed with iodoform gauze, which was renewed in a few days. The ligatures did not all come away until several weeks had elapsed. Her recovery was interrupted by a variety of curious complications which it would take too much time to describe. It could be noticed that the uterus exhibited the specific differences between cancer of the corpus and of the cervix uteri. When first removed, the inner surface of the uterus was covered with a greenish slime, very stinking. The whole mucosa of the body was a mess of polypoid excrescences of variable size. The uterine ends of the tubes were not affected with the disease, nor was the cervix.

Dr. Kelly also exhibited two large sarcomatous ovaries, removed from a woman forty-three years of age. She had a marked cachectic appearance, suffered with knife pains in the lower abdomen, and had had metrorrhagia for sixteen months. He found two large irregular masses in her abdomen, which were obscured by fluid in the peritoneum. The uterus was jammed against the symphysis. At the operation, after tying off a number of omental adhesions to the right mass, it was found to be a soft, friable tumour, with a sessile attachment involving the whole broad ligament. The tumour broke down and bled profusely upon raising it. The broad ligament was quickly tied off by an interlocking series of interrupted sutures. The lateral wall of the uterus continued to bleed actively, and he had to resort to a device which has saved lives for him on several occasions. The cornu uteri was caught in a pair of bullet forceps, and raised forcibly up into view and carried over to the left side, while he passed a stout ligature in the cervical region deep through the uterus, with a view of tying the uterine artery. This checked the hæmorrhage. The tumour behind the uterus came out in handfuls, leaving a bare left broad ligament, which was treated in the same way as the right, including the ligature to the uterine artery. A drainage tube was left in, and the incision closed. Five hours later he was called to see her, and found a steady venous flow from the tube, which had saturated all the dressings. He put her under chloroform at once, placed the operating table directly under a side gas-light, and cut all the stitches, turned out the intestines, and found an active flow from a spot in the right pelvic wall. She made a good recovery as far as the local trouble was concerned, but a mass at the pylorus leaves room for suspicion that the disease in the pelvis was not the only focus. The tumour proved to be soft, round-celled sarcomata. This is the second case of sarcomatous disease of the ovaries he has operated upon. The first was a young girl of twelve. Both cases recovered.

Dr. Wm. Ashton exhibited a species of **Ovarian Sarcoma.** Mrs. Sarah G——, æt. thirty-five years, was admitted to the Jefferson Hospital on the 27th of last November. Puberty at fifteen years. Always regular, except when pregnant, up to two years ago, when her last child was born. At this time noticed a small tumour in hypogastric region, and to the right side. During the first year the growth was slow, after which it increased rapidly in size. She had lost a great deal of flesh, and was much emaciated. A diagnosis of ovarian sarcoma was made by Professor Parvin. Through Dr. Parvin's kindness he operated on the woman a few days later, assisted by Dr. Baldy. The tumour was found to fill the whole of the abdomen, and was universally adherent. Many of these had to be tied; and when the mass was removed, it was found that the whole posterior portion of the bladder and the uterus, as well as the fundus, had been adherent to it, and these points of adhesion oozed freely. Ligatures and Monsel's solution were used freely, and the bleeding stopped. The whole cavity was then thoroughly irrigated with warm water and the incision closed, with drainage. She died in six hours of shock. An examination of the specimen by Dr. Coplin shows it to be a spindle-celled sarcoma, with points of beginning degeneration, and some points of slight hæmorrhage.

Dr. Wm. S. Stewart exhibited exhibited **a Cyst of an Ovarian Tumour,** weighing eighty-four pounds. The operation was performed upon Mrs. ——, æt. sixty-one years. General health good. No marked emaciation. Abdomen enormously distended. Facia ovarianía very perceptible. He made an incision about two inches in length. Sac was emptied rapidly by a large trocar. Found general adhesions to the anterior abdominal walls; these were separated by a rapid sponging off, which had proved of advantage in preventing hæmorrhage and traumatism. The cyst was delivered as the adhesions were sponged off. Operation lasted forty minutes. No irrigation; no protrusion of bowels or omentum; slight oozing; glass drainage tube; only five stitches needed to close incision. Weight of sac and contents was eighty-four pounds. He was assisted by Drs. Joseph Price, W. H. Kirk, and Dill. Having seen the patient these three succeeding days, found everything progressing favourably. Temperature normal; pulse eighty-four; respirations twenty-two; oozing about ceased; drainage tube removed to-day.

Dr. J. Price read for Dr. R. Stansbury Sutton, of Pittsburgh, the following:—**Operation for Congenital Deformity.** Miss A. P——, æt. twenty. Never menstruated. Has severe pain in lumber region, abdomen, and head every month, but no flow. Vagina short, cervix uteri not felt anywhere; no uterus discoverable by bi-manual palpation through the rectum. Often vomits, is unfit for work, is melancholy. Laparotomy December 10th, 1888. Uterus unilateral, one horn one-half inch long, as thick as the first joint of the little finger. On the left side uterus not developed: no lig. lata., no tube, no ovary. On right side small lig. lata., large tube and full sized ovary, with two distended egg cells on surface. Ovary and tube removed close to cornea of the one-half uterus. The external genitalia were fully developed, the vagina about one-half ordinary depth, and blind at upper end. A note from Dr. Sutton, dated January 1st, says Miss P—— has gone home well, All of her morbid symptoms, mental in character, are gone. He adds that he has had thirty-four consecutive ovarian operations with one death, and twenty-seven sections for all kinds done with one death. All hospital work.

Dr. C. P. Noble read **A New Method of Diagnosis in Obscure Cases of Entero-vesical Fistula.** He had been recently asked by Dr. C. M. Wilson to see a patient supposed to be suffering from fistula. It was not his purpose to report the case in full. Briefly, the woman had what is called an ischio-rectal abscess about five years before. Some time after this abscess discharged she stated that she began to pass wind and small pieces of fecal matter, *per urethram*, at irregular intervals. No symptoms of bladder irritation existed. An extensive cicatrix, following ulceration produced by a pessary, is present in the vagina. It extends along both sides of the vagina and across the posterior fornix (behind the cervix). In view of the absence of bladder irritation and the well-known haziness of the knowledge of anatomy possessed by the laity, it was thought likely that if the fistula did exist it was thought likely that if the fistula did exist it was a recto-vaginal fistula. A careful examination, under anæsthesia, by touch and sight, made by Drs. Wilson, Hawley, myself, and others, failed to demonstrate the existence of any fistula communicating with the vagina. But two conclusions could be drawn: either the woman was right, or else she was a malingerer. The latter seemed probable from what was known of her. It was suggested that a careful and extended study of the urine, made with the microscope, might determine the diagnosis—particles of vegetable fibre or seed of small fruits might be found. This plan involved much labour and time. It occurred to him that the hydrogen gas test would settle the matter quickly and positively, and he suggested that it be employed. The recommendation was accepted and followed the next day. Dr. Wilson forced the gas into the rectum, and lighted the gas at the end of a catheter introduced into the bladder. Dr. Noble was unable to be present at the time, but Dr. Wilson told him that no gurgling sound was heard (caused by the gas passing the ileo-cæcal value), hence it seems plain that the communication exists between the bladder and large intestine. Dr. Noble offered this as a new and valuable method of diagnosis in obscure cases of entero-vesical fistula; or, if you choose, a new application of Senn's hydrogen gas test.

Dr. C. M. Wilson reported a case of **Lack of Development of the Fingers and Toes in a Child Delivered at Term.** The mother of the child applied for admission to the Philadelphia Lying-in Charity, November 29th, 1888. Upon examination she was found to be active in labour, and was immediately admitted to the lying-in ward. The membranes had ruptured, amnoitic fluid had escaped, and dilatation

was nearly completed. The labour terminated naturally and with great rapidity, the second stage lasting but one hour. The woman was a primipara, married, a native of Philadelphia, and a housemaid by occupation, æt. 25 years. She stated that she had experienced no fright or trouble during her pregnancy. She gave a very clear account of the members of her own and of her husband's family, and stated that no deformity had existed on either side for at least two generations. She made a rapid and normal convalescence from her delivery. The child weighed eight pounds, was fully developed with the exception of the deformity noted. The deformity consists in a lack of development of the majority of the phalangeal joints of the fingers of both hands and of both feet; in the absence of the nails upon nearly every finger and toe, and in the web-like folds of skin connecting several of the fingers of either hand together. The appearance of the constricting band on the right great toe would seem to give colour to the idea that possibly the deformity was due to intra-uterine amputation. The fact that some of the finger-tips sloughed off after birth would seem to strengthen this supposition. He believed, however, that the deformity was due to lack of development. No history of syphilis on the part of either parent could be obtained.

Dr. Parvin presented the **Sexual Organs of a Young Girl.** They are among several which he procured in Munich last autumn for the purpose of teaching students practically many of the operations upon such organs by the method proposed and pursued by Prof. Winkel—that is, the organs being properly fastened within and upon Schultze's obstetric phantom, many of the more common operations can be made by the students as upon the living subject. This much was said to explain why he had no history of the subject from which the specimen was taken. It will be observed that there is a very perfect annular hymen, one of the rarer forms of this structure, and its borders are quiet regularly dentated. The bladder apparently has its walls somewhat thickened, though probably not really; but certainly they seem very thick in comparison with the uterine walls. These latter are so thin that there is, in this regard, a hypoplasia of the uterus, and thus a uterus membranaceus, but the organ in length and breath seems fairly developed.

Dr. Parvin also presented an **Obstetrical Manikin.** The obstetrical phantom shown, he had made in Munich, and represents a design he had entertained for many years, in fact, since the beginning of his obstetric teaching. He wished a complete human form that could be put in the different positions a woman occupies in labour, natural, manual, or instrumental. The joints are sufficiently mobile so that the model can be place on the side or on the back, the limbs put in any position desired. The pelvis is of iron, covered with leather, and has a movable coccyx, while the external parts are made of rubber, which will dilate so as to admit the passage of a fœtus. The abdominal cavity is ample for the introduction of two fœtuses. One or both may be included in the rubber uterus designed by Prof. Winkel, and thus placed in that cavity. For the suggestion of a cast-iron pelvis, a model of the best one found in the Museum of the Munich Frauen-Klinik being made by which the cast was formed, I am indebted to Dr. J. Clifton Edgar, of N. Y., then a resident obstetrician in the Klinik. Dr. Edgar, who remained in Munich several weeks after I left, during his stay superintended the work, and doubtless I am indebted to his intelligent supervision, suggestion, and direction for the successful manner in which the workman carried out the original design. The model will be useful in gynœcological as well as in obstetric teaching, in that the different positions in which the patient is placed in examinations and operations can be readily and plainly illustrated. The only addition which it seems to me at present might be usefully made is a rubber abdominal wall similar to that of Budin's well-known obstetric manikin.

Dr. Kelly remarked that the condition of the hymen was a subject of much interest, about which many erroneous views prevailed. It was by no means uniformly ruptured by coitus. In other cases coitus alone was as capable as numerous pregnancies in obliterating all traces of the hymen. He had made many observations and careful drawings of a number of cases which showed a definite relation between a certain condition of the hymen and severity of a preceding labour; that is, where the vaginal outlet has been broken down, with extensive laceration, the hymen remained *intact*, except at the split posteriorly, being saved by the vaginal tear. On the contrary, the surest way of thoroughly destroying the integrity of the hymen was the equable, all-around dilatation of a *normal* labour. In a forceps case examined some months after labour, the hymen, elsewhere intact, was as cleanly cut into halves as a lacerated cervix. It is unquestionably, as Budin has shown, the pointing terminus of the vaginal canal.

Dr. B. C. Hirst showed a specimen of endometritis gravidarum polyposa from the University Museum; there are in the Museum two other examples of the same sort, one recently contributed by Dr. R. Deaver, of Germantown. In the last case the embryo was certainly not over three weeks old; the ovum corresponded to the third month, and had been retained in the utero some six months after the death of the embryo. They are all very good specimens of a very rare disease. He also showed a *pregnant uterus* removed from a woman with chronic nephritis, who died suddenly from apoplexy within three months of term. She had been blind for three weeks before her admission to the hospital, and was œdematous in face and extremities. As soon as his attention was called to the case, he ordered premature labour to be induced, but before this could be done the woman died. The uterus showed, on abdominal palpation, an apparent right lateral version. On opening the abdomen this was seen to be due to the altitude of the fœtus (vertex presentation, L.O.A.). The uterine body extended equally to both sides of the median line, but had not the pyriform shape supposed to be characteristic of the pregnant organ. It was irregularly triangular in form, the base of the figure being to the right side, the apex to the left. This would give one the impression, on abdominal palpation, of R. lateral version, from the fact that the highest point of the uterine fundus was to the R. side; but this point corresponded to that angle of the uterine cavity on which lay the trunk and extremities of the fœtus.

The Spirit of the Societies.

Clinical Society of Manchester, Tuesday, April 16th (Dr. Leslie Jones, president, in the chair).—Dr. W. N. Maccall read a paper upon the **Treatment of the various forms of Rheumatism.** After reviewing the previous treatment of acute rheumatism during the last twenty-five years, Dr. Maccall considered the value of the present routine treatment by salicylic acid and its allies or derivatives under the following headings. 1. In relieving pain and lessening fever in acute rheumatism the salicyl treatment is undoubtedly the most effective we know of. 2. The salicylates do not prevent the rare complication of hyperpyrexia, and are absolutely useless in its treatment. 3. It is doubtful if they prevent endocardial or pericardial troubles, the percentage remaining about the same (50 per cent) since the salicyl treatment as before. They seem to have no influence in curing these troubles when they do occur. 4. There is no proof that the salicylates prevent relapse. 5. It is not proved that the salicylates lessen the duration of the disease, nor that they prevent anæmia. With regard to the particular form of the remedy, most writers recommend (and Dr. Maccall agrees with them) salicylate of soda in twenty-grain doses at first every hour for three or four hours according to circumstances. It should be continued in diminishing doses for at least eight or ten days after all pain and pyrexia have gone, and in most cases should be followed by iron. Salicylic acid, salicin, and salol may be tried in exceptional cases where the soda salt is not well borne.

In young children antipyrin may be substituted with advantage. In convalescence, Sir. A. Garrod's alkaline mixture, followed by iron, was advised; and if any joint remained stiff or swollen, blistering or painting with iodine was useful.

Dr. Addy made some remarks on his experience of the blistering treatment, preferring however the salicylate of soda, and laying special stress on combining with the latter drug alkalies and an opiate to relieve pain.—Dr. Braddon confessed himself as disappointed with the salicylate treatment, and preferred as a rule the alkaline, combined with Dover's powder.—Dr. Hill Griffith asked if Dr. Marshall had ever tried acupuncture of the joints.—Dr. Hirst usually prescribed salicylic acid dissolved in liquor ammonia acetatis, in frequent and small doses. Opiates he found nearly always necessary.—Dr. W. C. Martin referred to insidious pneumonia occurring in acute rheumatism, and also to the treatment of hyperpyrexia.—Dr. Railton considered that salicylic acid or its salts was comparatively useless in acute rheumatism, except as regards the relief of pain. It warded off no complications, and did not prevent relapses.—Drs. Owen, Scott, Simpson, and Tinker also took part in the discussion.

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Medical Society of London (C. Theodore Williams, M.D., president). **On Tropical Diarrhœa as seen in this Country.**—Sir Joseph Fayrer read this paper. The subject of these remarks is a peculiar form of diarrhœa which derives its origin from tropical and sub-tropical countries, notably India, China, Ceylon, Java, etc., and which is of pregnant occurrence in Europe wherever old residents of tropical climates reside. Its symptomatology, etiology, and as much of its pathology has been ascertained are described, and Sir Joseph Fayrer

hopes that though long regarded as a dangerous and even a fatal complaint, it is amenable to treatment if properly and vigorously dealt with. The whole flux, says Sir Joseph, which has various symptoms, though not always directly related to any well marked form of climatic or malarial disease, is very insidious in its onset and progress, and very intractable if not early controlled. It is something more than ordinary diarrhœa, thought it often supervenes on that disease. In it the worse symptoms are often manifested, and a dangerous and protracted state of disease established, and it owes its fatality when continued beyond a certain stage to irreparable degeneration of the intestinal mucous membrane and glands, and the consequent inability to absorb nourishment. Death is due to anæmia and exhaustion from slow inanition, the channels for the admission of nutrient material being practically interrupted or destroyed. Sir Joseph thought this hill diarrhœa which affected dwellers in the hill stations, and the "white flux" of other parts of India, might be regarded as identical, while in some cases it was associated with, or often merged into, certain forms of chronic dysentery. The author considers it must be regarded as a climatic disease, though its etiological relations with malaria seem to be remote rather than direct. There is often a form of intermittent and irregular diarrhœa prone to attack people who return from India with hepatic and splenic derangement, which, though it may be the precursor of white flux, is not of so dangerous a character, and from which recovery is often so rapid as to show that it is due rather to functional disorder than to structural degeneration of the intestine. In summing up, Sir Joseph Fayrer says: "From the insidious character of this diarrhœa it often gains ground before radical measures are resorted to, and though a journey to Europe is a step in the right direction, much remains to be done. Diet, clothing, habits and mode of life are most important questions, and the whole object in view may be summed up in physiological rest." All irritating food must be avoided; milk alone (cow's milk) should be the only food, some three or four quarts taken daily, only a little at a time but often. No disease better illustrates the power of nature than this does. If perfect physiological rest be ensured, early repair rapidly takes place; if degenerative changes have gone too far, or if the diarrhœa be complicated with other diseases, the issue will probably prove fatal; but even in such cases amelioration may be procured; while in ordinary cases milk diet, if properly carried out, affords a reasonable prospect of recovery.

Brigade-Surgeon SCRINEN said he was convinced that the milk diet was not only the best but the only treatment to be relied upon. He mentioned a case of a gentleman who had suffered from the disease for three and a half years. He put himself upon a milk diet, and so soon as he did so the symptoms abated within a few days. Unfortunately, he could not be persuaded to adhere to the treatment, and so soon as he felt better, he insisted upon taking more substantial nourishment, always with the result of bringing back the symptoms. He ultimately succumbed from exhaustion. In another case, he also treated with milk, and five years afterwards when he saw the patient, he was so much changed for the better, he did not recognise him.—Dr. SANSOM said that they had had some cases of this kind at the London Hospital, and he was convinced of the value of milk treatment. He remembered that his colleague, Dr. Stephen Mackenzie, has seen great benefit derived from copious injections of nitrate of silver, a plan of treatment which was justified by the extensive intestinal ulcerations.—Dr. ANDERSON wished, also, to confirm the value of milk treatment, and asked Sir Joseph Fayrer whether he always gave it raw, or peptonised, or boiled.—Sir Joseph replied.

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SOCIETY FOR THE STUDY OF INEBRIETY (Norman Kerr, president). **Treatment of Inebriate Women.**—Mrs. L'OSTE gave a summary of twenty-seven years experience in the treatment of cultured female inebriates. The "tapering off" had proved a failure, and immediate abstinence had been effectual and safe. At first both sexes were treated, but experience soon showed that homes for ladies and gentlemen should be separate. Inebriety was a disease often hereditary, and the germs frequently noticed in children. When not inherited, obstetric troubles were frequently the cause for the disease. She said fashionable pick-me-ups, reputed non-spirituous, but really intoxicating drinks, were often a cause. She did not think the people, when under the crave, were responsible for their actions. The predisposing cause was the first thing to combat. The disease was curable, and the patients should be encouraged to try and help themselves in effecting their own cure. Unconditional abstinence was absolutely essential, and from one to two years were generally required. The study of inebriety was making great strides, and there was great needs for governmental free homes for the indigent, who were often wrongly punished as criminals. Mrs. L'OSTE found that thirty per cent. were permanently cured, the patients having belonged to the cultured and wealthy class.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY (J. W. Martin, M.D., president). **Nervous Affection of Chronic Lead Poisoning.**—Dr. RUXTON read a paper on this subject. He considered that the type of epilepsy caused by lead poisoning did not differ from the usual character of discharge from the higher cerebral centres. He quoted a case of melancholia in support of insanity coming on only after vascular charges had been established, the man ultimately presenting unilateral convulsions before death, which were found to be due, it was thought, to pressure and irritation of the right pyramidal tract in the pons, the left side of which was completely broken up by a recent hæmorrhage.

Acute Peritonites.—Dr. HUNT read a paper advocating the treatment of acute peritonites by saline purgatives, showing that when this plan was adopted at the onset of the attack, the result was highly satisfactory.

Shawl Pin Passed per Anum.—Mr. C. MARTIN showed a shawl pin, two and a half inches long, which a woman had swallowed, and passed per anum after seventeen days-—Several specimens were shown by Mr. MAKEIG JONES.

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NEW YORK SURGICAL SOCIETY (Dr. Lewis A. Stimpson, president). **A Large Bursa over an Exostosis.**—Dr. MCBURNEY presented a specimen of exostosis removed from the outer aspect of the right femur of a young woman, over which a large bursa, holding three ounces of serum had been formed.—Dr. WEIR had removed such a bursa, and the minute extosis which had caused it, from a woman who had travelled all over Europe for the relief of what had been supposed to be a hysterical joint affection.

Operation for Dorsal Dislocation of the First Phalanx of the Index Finger.—The PRESIDENT showed a boy, eleven years old, who had suffered this dislocation in a fall upon the outstretched hand. All attempts at reduction by manipulation and traction having failed, he opened the joint by a longitudinal incision on its palmer aspect, and found that the obstacle to reduction had been created by the position of the anterior or glucoid ligament. This had been torn transversely close to its insertion upon the metacarpal bone, and the head of the latter had passed through the rent, and the torn edge of the ligament had been found tightly stretched across the dorsal surface of the metacarpal bone close behind the head. It had been so tense that it could not be lifted back with a tenaculum until after it had been nicked longitudinally at its centre. The wound had healed under a single dressing, and now, eighteen days since the accident, the motions of the joint were almost completely restored. He added that, in his experience, these dislocations of the index finger were even more difficult to reduce than the corresponding dislocations of the thumb, which were notoriously difficult.

Linen Thread for Sutures and Ligatures.—Dr. WILLY MEYER reported having found a substitute for other kinds of ligatures and sutures in linen thread, such as was sold at regular dry-goods shops. His experience with its use was only a short one, but confirmed the results obtained with the same article by Trendelenburg. It was serviceable, soft, cheap, and easily prepared. The only preparation necessary was to wind it on a glass rod, and soak it for twelve hours in a solution of corrosive sublimate (one per cent.), and then preserve it wound on a glass spool in a one to one-thousand solution of the same. Linen healed well in the wound, but it should only be used where primary union was to be expected. In comparison with catgut, its only disadvantage was that it was not so slippery, and had to be pulled well. When moist it was stronger than when dry.

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CLINICAL SOCIETY OF LONDON (Mr. Willet, president). **Traumatic Cerebral Hæmorrhage.**—Mr. HERBERT ALLINGHAM read notes on this case. Nathaniel C——, æt. forty, was admitted into the Great Northern Hospital. He had fallen off a tram-car when in a semi-drunken condition. When taken to the hospital he complained of pain in the left shoulder. There was no sign of external injury to the head. He slept well after a bromide and chloral draught. The next morning, December 8th, he complained of feeling drowsy, and headache on the right side of his head. His pupils were equal, but retracted to light. There were no signs of paralysis, no vomiting. December 13th.—He became more drowsy, not noticing things about him; his breathing was rather laboured and stertorous. At 6 a.m., December 14th, he had a convulsion. After the convulsion, the left arm and leg passed into a state of clonic spasm. The urine was 1020, no albumen, no sugar, and was passed unconsciously, but not during the fits. He had a recurrence of the fits at intervals. A week after the accident, I saw him, and determined to operate. Chloroform was given. A curved incision was made, ascending from the external

angular process to the molar process, and a large semi-lunal flap turned down, so as to expose the temporal muscle; this muscle was then divided from its organ and turned down. A crown of bone was then removed over the right fissure of Rolando—that is to say, about two and a half inches behind and one and a half above the external angular process. The posterior branch of the middle meningeal artery was exposed. The artery and dura mater were found to be intact, but the dura mater bulged, and did not pulsate. It was divided, together with the artery, and a large blood-clot was exposed, about three ounces of blood-clot were removed by the finger. On inserting the finger into the cavity, the brain was felt to be compressed. The pia mater was intact, except at the right frontal lobe, where the cerebral hemisphere was felt to be lacerated and soft. The cavity was well irrigated, until the solution 1-40 carbolic came out quite clear. One catgut suture was introduced into the dura mater, and two drainage tubes inserted into the chest. The edges were brought together with silk-worm gut sutures, and dressed with carbolic gauze. In three days after, the paralysis had gone, and on February 18th he left the hospital quite well.

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Odontological Society of Great Britain (Mr. Henry Senill, L.D.S., president). **Epithelioma Affecting the Upper Jaw.**—Mr. C. S. Tomes, F.R.C.S., read notes of this case. The disease affected the socket of a second upper molar, the tooth having undergone a considerable amount of treatment for some time. The roots were separated and screws inserted, whilst a ring surrounded the portion above the gum, and a contour crown surmounted this. The tooth remained quiet for eighteen months. Subsequently, on the tooth becoming less, it was taken out, when suspicious-looking granulations were found around it, and filling up the socket. Mr. Christopher Heath saw the case in consultation, and confirmed the diagnosis of epithelioma. Local treatment with zinc chloride paste having failed to eradicate the growth, excision of half of the maxilla was performed by Sir Joseph Lister. After three years, no recurrence had taken place.—The President drew attention to the loosening of the teeth, which was an early symptom in cancer of the antrum.—Mr. Weiss inquired whether patches of leucopatria were present in Mr. Tomes' patient, pointing out their diagnostic value.—The President showed a living specimen, in whom there was an extreme development of the lower jaw.—Mr. Jonathan Hutchinson remarked that the evidence was not so conclusive as to whether the growth of the bone was still active, although the tenderness which existed rather pointed to that conclusion. The case, to his mind, was very like a case he had under observation of the disease called acromegaly, in which the lower jaw, the digits, and the toes, all become enlarged. The head of this patient was particularly like, but as no apparent increase in size had occurred while under observation, it was acromegaly in an early stage. In osteitis deformans, although a similar overgrowth of the jaws occurred, the increase in size was not limited to these bones. It might be thought to be either congenital or acromegaly.

Surgical Diagnosis of the Teeth.—Mr. Jonathan Hutchinson read a paper on this subject, in the course of which he made a few remarks on the materials used for stopping teeth. Without for a moment disparaging amalgams as a stopping material, Mr. Hutchinson believed that in some rare instances they were the cause of intractable and irritable sores upon the lips, gums, and cheeks. He spoke simply as an observer, not knowing the chemical compositions of these stoppings, many of which he was told were secret preparations, but he had certainly seen ulcers which refused to yield to treatment disappear after the removal of discoloured amalgams. He had always been careful to eliminate the probability of roughness of the stopped teeth being the cause, and had never seen ulcers where good filling had been used. He quoted a case of an American physician, who presented a number of ulcers, which several surgeons had pronounced syphilitic. The patient, however, stoutly maintained that he never had syphilis, or a symptom of it, and all his children were perfectly healthy. Mr. Hutchinson ordered the removal of several amalgam filling he had inserted some years before in America, and the ulcers rapidly disappeared. Teeth affected by stomatitis, whether mercurial or otherwise, were often mistaken, said Mr. Hutchinson, for syphilitic teeth. Mercury given in infancy set up inflammation of the tooth sacs, and so led to deformity of the enamel. The test teeth in these cases are the first permanent molars, which might be compared with the premolars. Lamellar cataract, so commonly associated with stomatitic teeth, was due to convulsions. Speaking of dentition in rickets, Mr. Hutchinson deprecated speaking of any definite rachitic teeth. The disease attacked the teeth, as it did other structures. The value of considering the teeth lay in answering the question—not, are the teeth present? but rather, how and why did the teeth go? Mr. Hutchinson did not consider gout, as such, produced any typical teeth. As long ago as Graves tooth-grinding had been shown to be common among the gouty, and this practice led to wearing down the teeth. At the close of the paper there was an interesting discussion by the President, Mr. C. S. Tomes, Mr. Charles White, Mr. Storer Bennett, etc.

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British Gynæcological Society (Dr. Macan, president, in the chair). **Case of Erotic Feelings preceding and following Epilepsy.**—Dr. Routh read the notes of a case in which erotic symptoms preceded epilepsy. The patient was a lady whom he had first seen in 1874. She was then unmarried, and was suffering at that time from leucorrhœa, with ulceration of the cervix and follicular vaginitis, also dysmenorrhœa. She complained at times of something very much like fits. She was markedly hysterical. She had been addicted to habits of masturbation. She was now married, and had had three children. Since her marriage the fits had recurred, and sometimes followed conjugal relations. They were always stayed by valerian and the bromides. He read his notes on the case on October 18th. The catamenia had been unusually copious, but had lately been very irregular, and finally stopped, and headache and symptoms of confusion of intellect had followed. She was then forty-five. The uterus was very large, reaching above the umbilicus. The passage of a sound into the uterus was very painful, and brought on a fit. He ultimately decided to try the effects of the negative electric current to re-induce a menstrual flow, but on the occasion on which he did this she developed strong erotic symptoms, and had an epileptiform attack, after which she again became aggressively amorous to a lady to whose care she was for two hours consigned. The author pointed out that these were precisely the circumstances under which charges were made against medical men, and though his long-standing relations with this particular patient prevented anything of the kind, in that case it was evident that the situation was full of danger under other circumstances.

Dr. Hills said it would be a great advantage to fellow-practitioners if the details of this case be consigned in the "Transactions," so that it might be available on any future occasion.

Mr. Tait referred to the well-known case of Dr. Bradley. He said that it was important to notice the association of a certain form of epilepsy with an erotic condition. These things ought to be widely known. They ought to be in our text-books, and men should not be sent to prison on charges made by women who were very likely to be suffering from sexual disturbances of this kind. He added that another curious point was charges brought by children under the new law. He had been engaged by the police to investigate these cases, and in only one out of twenty or thirty was there reason to believe that such an offence had been committed.

Dr. Barnes said it was important that this case should be put on record, and mentioned a case in his own experience, insisting upon the necessity of inquiring into these statements very carefully.

Dr. Heywood Smith said that the relation of the electric current to the production of these feelings ought to be cleared up.

Mr. Tait said that one would like to know from authorities on epilepsy how far the erotic excitement was the cause of the epilepsy?

Dr. Heywood Smith pointed out that in the case he had just brought forward, the patient had no fits before marriage, but afterwards had seven or eight in a day.

Dr. Bedford Fenwick insisted upon the importance of remembering the connection that existed between erethism and mental trouble.

Dr. Purcell asked whether there was any epileptic history in Dr. Routh's patient?

The President said the application of the current to the interior of the uterus was not likely to give rise to erotic feelings. The cervix was sensitive, and that might be protected. He asked whether the woman in Dr. Routh's case had expressed the opinion that liberties had been taken with her. He thought that gynæcologists were in a better position than most ordinary practitioners since patients came to them expressly for the purpose of having their reproductive organs examined.

Dr. R. T. Smith said he had been consulted only that week in reference to a young lady, æt. twenty-three, who had had fits consequent on masturbation.

Dr. Routh, in reply, said his only object in bringing the case before the Society was to place on record a well authenticated case in which erotic symptoms preceded and followed epileptoid attacks. It was for the same reason that he read his paper on "Nymphomania" in order to show the absurdity of certain charges made. He observed that even an ordinary vaginal examination was sufficient in some women to provoke the sexual organs, therefore it would not apply to electricity

only. The patient had not accused him of having taken liberties, but she had retained her impressions, and had expressly authorised him to publish the case because she felt that other people under similar circumstances might bring a charge against medical men.

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ROYAL ACADEMY OF MEDICINE, IRELAND (Dr. Byrne, president). *Obstetrical Section*—Dr. GRAVES exhibited for the President, who was absent, a **Sloughing Fibroid.** It was removed from a woman by an operation at which he (Dr. Graves) was present. The peritoneum was very thick, and the tumour came down upon the uterus. A pint of pus came from it. There was a mass of malignant growth, and also a great many adhesions in the abdomen. The women died.

Dr. CRANNY moved—"That the marked sympathy of the Section be conveyed to the family of the late Dr. George Johnson, one of the former Presidents of the Section." Dr. Johnston had been Master of the Rotunda Hospital, and had given them all a great deal of valuable information in his reports connected with that institution. The resolution was passed in solemn silence.

Laparotomy for a Ruptured Tubal Gestation.—Dr. THORNLEY STOKER read the particulars of a case in which he had performed laparotomy for a ruptured tubal gestation. The woman, who was twenty-four years of age, and who had been four years married, had the usual history of previous tubal disorder and pain on the left side—that on which the gestation had taken place. She had given birth to a still-born fœtus at the seventh month during the year following her marriage, and had not since been pregnant. The rupture took place about the twelth week. The case, unfortunately, did not come under his care until the eighth day after the rupture, when the woman was so exhausted by peritonitis, pain and vomiting, that operation was undertaken as a forlorn hope, with the result of death about eight hours afterwards. The case had been regarded, before he saw it, as one of intestinal obstruction. There was a broad-ligament hæmatocele in the tube, as large as a hen's egg, and an enormous extravasation of blood into the peritoneum. The former was primary and the latter secondary, and probably due to the penetration into the peritoneum of the vessels of the placenta. The ovum, with the exception of the placenta, had perished at the time of the first hæmorrhage, and growth of the placenta had resulted in the fatal bleeding. The portion of the broad ligament containing the remains of the gestation was ligatured and removed, the peritoneum washed of clots and fluid blood, and the intestines, as far as possible, freed from the extensive adhesions which existed. The gestation had taken place in the tube near to the fimbriated end. He pointed to two matters of exceptional interest in the case—one that it constituted an example of the rare condition of a primary broad ligament hæmatocele, followed by a secondary intra-peritoneal one. He explained his view that the latter was not due to a rupture of the former, but to a growth and penetration of the vessels of the surviving placenta. The second exceptional feature was the rectal obstruction, due to the intra-peritoneal pressure from clots. This he called attention to as disproving the statement of Mr. Tait, that rectal obstruction is necessarily a sign of extra-peritoneal hæmatocele. He referred to the brilliant results obtained by operation in these cases by Mr. Lawson Tait, whose views as to the propriety of operation he strongly advocated.

Dr. BYRNE said the case was a remarkably interesting and instructive one. One feature in it was the difficulty of diagnosis owing to the simulation of the symptoms of obstruction of the bowels caused by the large quantity of blood that was poured into the peritoneum. He supposed one of the reasons why cases of rupture in ectopic gestation had not been oftener noticed by writers was that when a large effusion of blood took place into the peritoneum the patient generally died. Dr. Stoker had not mentioned whether in his case any trace of the fœtus was found. There was no doubt that the treatment adopted by Dr. Stoker in his case was right. If they were convinced that there was effusion of blood into the peritoneum they should perform laparotomy, remove the clots, tie the vessels, and give the woman a chance. The difficulty was to determine the exact moment at which they should perform laparotomy, for generally there was such collapse that their hands were tied. Whether a correct diagnosis were arrived at or not he thought that symptoms of obstruction alone would justify the operation. It was an interesting question as to what caused the obstruction of the tube in the present case, and why the fœtus should have developed at the particular place where it did.

Dr. HORNE said they were deeply indebted to Dr. Stoker for this interesting and accurately described case. It was extremely interesting from a medico-legal point of view. There was a woman brought to hospital without any account of previous history, and having well-marked symptoms which might have been taken for poisoning. The diagnosis that seemed to have been actually made was intestinal obstruction. From the specimen exhibited he felt a difficulty in arriving at the conclusion that the intestinal obstruction was the result of the hæmorrhage, and having gone into the free cavity of the peritoneum he failed to see how the pressure of the clots could have obstructed the intestine. The history of the case looked very much as if the woman had had syphilis and disease of the fallopian tnbe, which would account for the impregnation taking place in the tube itself. The period at which the rupture took place, corresponding to the thirteenth week of pregnancy, was the usual time at which such ruptures occurred; they rarely happened later than the fourteenth.

Dr. O'CALLAGHAN said they had not seen any operations for cases of this sort in Ireland, and he thought that the cases must have been overlooked, for in England Dr. Lawson Tait had published a great many of them.

Dr. MACAN said during six years' experience in the Rotunda he had seen a great many cases of extra-uterine fœtation, with hæmorrhage, and he had never operated in any case while the hæmorrhage was taking place. They had three cases under observation at the same time, in which, as far as they could observe, ectopic gestation had taken place. Of the total number of cases, some have made a good recovery, and some had not; and there were others under observation at present. Ordinarily speaking, he would not dream of operating in any case unless he diagnosed it early before the rupture. Once the rupture took place they had hæmorrhage into the peritoneum: and then the question of operation or not became a most difficult one to decide. As ounce after ounce of blood passed the bleeding lessened; and once it stopped the woman was almost cured. Hæmorrhage into the peritoneum was taken up with great rapidity. If meddled with it became a different thing. With a view to operation the thing would be ascertained before any rupture took place; after a rupture it was extremely difficult to decide on the moment to operate. When the hæmorrhage was retro-peritoneal the woman would very likely get well without any operation. He believed that numerous cases of extra-uterine fœtation occurred and got well without any doctor seeing them at all.

Dr. STOKER, in reply, said he had mentioned that in his case the fœtus had become broken up, and the remains lay among the clots in the tube and could not be identified, but the placenta could be readily seen, and its attachments studied as it had survived the destruction of the rest of the embryo. He himself had not regarded the case as one of intestinal obstruction; what he said was that it had been so treated before it came under his observation. In fact he had not enough evidence to prove what it was. The only thing he knew for certain was that the woman was dying of some intra-peritoneal condition that required laparotomy for its accurate diagnosis. In his paper he (Dr. Stoker) distinguished between extra-peritoneal bleeding, where the blood coagulated and dried up, and bleeding into the peritoneum. In the former cases an operation was not always called for, and the woman might make a perfect recovery without it. In the latter, where the sac of the peritoneum became a great mass of blood and clots, and the woman was dying from loss of blood, there should be no hesitation about operating. Dr. Tait had published forty-one cases of intra-peritoneal hæmorrhage in which he operated, and saved thirty-nine. He could not conceive a surgeon making the statements that Dr. Macan had made—viz., that it was easy to diagnose ectopic gestation, and that even where intra-peritoneal hæmorrhage had occurred he opposed the operation of laparotomy.

AMERICAN NOTES.

FROM A CORRESPONDENT.

DIPHTHERIA is prevalent everywhere. The following report may interest your English readers. Dr. H. Jackson, of Boston, introduced the subject at the Massachusetts Medical Society, at its last meeting, January 29th:—

Notes on Twenty-seven Cases of Diphtheria, occurring between July 1st, 1888, and January 1st, 1889.[1] By HENRY JACKSON, M.D., of Boston.—From July 1st, 1888, to January 1st, 1889, I treated twenty-seven cases of diphtheria out of 1,031 cases of all kinds, seen in the second district of the Boston Dispensary, situated on the west side of Hanover-street. Of these cases, five died; four of septicæmia, one of laryngeal obstruction. Five cases were very mild; two were not confined to the bed. In most of the cases the membrane was confined to the uvula and pillars of the pharynx. In these cases a

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, January 29th, 1889.

large part of the roof of the mouth and lips was covered with membrane. Fifteen cases occurred in houses where the sanitary condition was bad; ten cases where the sanitary condition was apparently good; two cases in a house that seems to be in good condition; and yet one where I have found much sickness in the last two years, notably diphtheria last winter. Where there were several children in a family, usually one or more cases of diphtheria appeared shortly after the first cases—namely, in a family of three children all had the disease; in a family of five children four had the disease; in a family of three children two had the disease (later in the year two members of this family had typhoid fever). In all cases the disease was strictly confined to the house where it first appeared, and in only one instance did the disease spread to other families living in the same tenement. Of the twenty-seven cases, four were young adults; the average age of the children was five years, the youngest being eighteen months.

As of importance in making an early differential diagnosis between diphtheria and follicular tonsilitis, I have found that in diphtheria (1) the temperature was much lower, often normal; (2) the constitutional symptoms were usually less severe at first; (3) the glands about the neck were more swollen and tender. In all cases I have felt justified in making a diagnosis of diphtheria where there was membrane on the uvula or on the pillars of the pharynx. As last year I could report that, having had in my charge in this district a large epidemic of scarlet fever, I was not aware of having carried the disease to a single child, so this year not a case of diphtheria has occurred in a family that was under my care for other diseases. In other words, so far as an opinion can be formulated from so small a number of cases, the disease is very infectious to young children brought into immediate contact with those sick; the disease does not spread from house to house; the disease is not easily carried by a third person. The following list shows the character and distribution of the various infectious diseases in the portion of the city above described, during like periods of two successive years:

JULY, 1887, TO JANUARY, 1888.

Diphtheria	8
Tonsilitis	57
Scarlet Fever	68
Measles	5
Typhoid	24

JULY, 1888, TO JANUARY, 1889.

Diphtheria	27
Tonsilitis	33
Measles	5
Scarlet Fever	1
Typhoid	23

Dr. A. L. MASON opened a discussion on diphtheria with a report of six fatal cases of that disease in adults which had recently occurred in the new diphtheria ward at the Boston City Hospital. This ward, which was opened in April, 1888, was stated to be admirably adapted to its purpose, and the nursing was, in the experience of the reader, unequalled, because he knew of no other hospital in this vicinity where the nurses are systematically trained to take care of large numbers of diphtheria patients, a duty which they perform with the greatest intelligence and devotion. Under these favourable conditions for treatment, however, the mortality had been large—many patients, both adults and children, dying from septic poisoning, heart failure in convalescence, and tracheal obstructions. Their state at entrance was often very bad, sometimes moribund. Almost all cases admitted would be classed as severe.

Dr. Mason continued as follows: It will be well, then, to consider how fast this disease has grown upon us, from a few isolated cases thirty years ago, until it is now the most fatal endemic disease of a preventable nature which we have to contend with. The success of our board of health with smallpox makes it proper to assume that the mortality from all infectious diseases could be reduced to a minimum if similar methods could be adopted for their suppression. In this connection I will refer to the report of the Glasgow Fever Hospital, where by isolation and disinfection an improvement in the public health has been obtained. There are obvious reasons why it is difficult to deal with diphtheria in this community, at present at least, in as summary a manner as with small-pox, although diphtheria is much less contagious, therefore more readily controlled; it is also more fatal, and in many cases it is entirely beyond the reach of medical or surgical aid. During 1888 the number of deaths from diphtheria in Boston was 470, one-third of all the cases reported. This is in excess of the whole number of deaths from yellow fever in Florida during the recent epidemic, in which there were about 350 deaths in less than 4,000 cases, 9 per cent. At the city hospital, with the assistance of Dr. W. A. Morrison, house-physician, I have found that the records of the diphtheria wards show in 1888 the admission of 199 medical patients and 126 surgical—total, 325; 34 cases were transferred from the medical to the surgical department for operation on account of tracheal obstruction. It will be seen then, that 160 patients, or nearly half the whole number admitted, required surgical treatment. Of the remaining 165 who were treated medically 47 died, or 28 per cent. Under 15 years of age there were 145 admissions with 40 deaths, 27 per cent. Between 15 and 30 years, 6 deaths out of 49 cases, 12 per cent. There were but five patients over 30 years of age—viz., one of 30, one of 31, two of 34, and one of 40 years. One died from tracheal obstruction, which was not relieved by tracheotomy. Direct contagion was reported in about one-fifth of the admissions, but the history in this respect is often deficient. Many of the worst cases come from among the Germans, Poles, Italians, and other foreigners. Two cases came from the same family in six instances; three cases, three times; four cases, three times; five cases, once. Thirty-eight cases from thirteen families. Among the inmates of the hospital who took the disease were one of the house-physicians, as previously mentioned, who died after a brief illness; three nurses employed in the diphtheria wards; one nurse in a distant ward, and one laundry maid; all of whom recovered. In 1880, when the facilities for isolation were imperfect, there were but seventy-one admissions to the medical department, of whom seven were hospital employees; 22 per cent. of cases died. In 1887 the rate of mortality, exclusive of surgical cases, was 29 per cent. It is probable that a large proportion of the gravest cases occurring in the city came to the hospital, especially for tracheotomy. This necessarily makes a high death-rate; forty-seven per cent. out of a total of all cases admitted in 1877, 184 in number.

Dr. G. H. LYMAN said the number of cases of diphtheria has certainly been very startling at the City Hospital, and they presented some features unlike those I have observed in former years. Since October 1st I think there have been under my service thirty cases; eight of these were transferred for operation, leaving twenty-two cases, of whom four died. There has been another feature in connection with these cases that, I think, has been very striking, and that is the very weak pulse and the low condition of the patient in almost all the cases that I have noticed, certainly in a very large number. Out of these twenty-two cases there were four of distinct heart failure. One of them recovered; the other three died, and died apparently from a paralysis of the heart. It was not thrombosis; they died easily, quite suddenly; there was no considerable effort required for breathing, no sudden excitement towards the last, which, I suppose, we should look for in cases of thrombosis. With the exception of these cardiac failures there have been none of the cases followed by any symptoms of paralysis elsewhere. In cases of typhoid fever we have had quite a number of patients recover apparently entirely from the typhoid, but we found several of them suffering from neuritis. I have half a dozen cases of neuritis following typhoid fever, but none following diphtheria.

The great prevalence of the disease, it seems to me, is a thing to which prompt attention should be given. I cannot think, in view of the statistics of the Glasgow Hospital reports, that it is a necessary disease. It seems to me something could be done to check it. We can check small-pox; Glasgow people seem to be able to check diphtheria. I see no reason why we cannot do it here as well. The Boston City Hospital has accommodation for twenty-five to thirty diphtheria patients. For a portion of the time the ward has been fairly full, I don't think so full that any cases have been obliged to be placed elsewhere. The cases Dr. Jackson speaks of, of mild diphtheria, or, granting a doubtful diagnosis, follicular tonsillitis, have been quite numerous. We have had a good many cases in which, for twenty-four hours, we did not attempt to make a positive diagnosis. There seems to have been a more constant accompaniment of tonsillar inflammation, distinct from diphtheritic disease, than I have ever noticed before. A good many have turned out to be tonsilitis, but some of them undoubtedly were diphtheria. The importance of the thing, it seems to me, must be manifest to this society, but I do not know how we are going to remedy it except through some action of the Board of Health. I think the subject is important enough for this society to appoint a committee to consult with the Board of Health to see if there is not something to be done to check the spread of this disease. Dr. Jackson mentioned one point that was confirmatory of the general views on the subject; that the disease was decidedly infectious, and *not* contagious. I have always supposed that to be the case, but his statistics and those which the chairman has given bear out my opinion very strongly. I am rather surprised at the great mortality that the statistics which have been presented give. I did not suppose, from my experience on the medical side of the hospital, that it was anything like that. I suppose the cases turned over to the surgical side were transferred too late, or were of such a character that no operation would relieve the patient. This would increase the general operation very much. The operation in a

large number of surgical cases—cases extending to the larynx and requiring operation—is done in patients already reduced by the disease, and the mortality is very large indeed. Putting these aside, I should say the mortality of diphtheria was small.

Dr. DURGIN, Chairman of the City Board of Health: The appointment of a committee would please me very much. I have listened to the remarks with a good deal of interest, and I felt very greatly pleased when I understood that there was to be a portion of this evening taken up with the discussion of the prevalance of diphtheria in Boston. The cause of such a large nnmber being treated at the City Hospitals has already been given by the reader. The accommodations have been greatly increased in the past year and, in addition to that, the Board of Health have taken measures to send more patients there than ever before, in consequence of the increased accomodations. I have been somewhat surprised at the very large rate of mortality at the hospital, which undoubtedly is accounted for in a large measure by the fact that the *worst cases* come there; not all, but many of the worst cases, and particularly the surgical cases. The mortality for the whole city, however, has not increased this year; that is, the rate of mortality, the average percentage of mortality of the whole number of cases reported. I have brought in a transcript from the records to show the percentage of mortality of the number of cases reported for the last eleven years; that is, during the period over which we have called for reports from the physicians. I find that the percentage of deaths from diphtheria of the total numbers of cases reported for the past year was 33.18 per cent., and for the past five years the percentage has been 29.16 per cent. against 33.56 per cent. for the previous five years; there having been, as you see, quite a reduction in the percentage of deaths in the total number of cases reported in the last five years compared with the previous five years.

In 1878 we called for reports upon diphtheria, and the first year we received 1,370 reports, with 448 deaths, giving a percentage of 32.7 per cent. for the deaths. For the first five years there were 7,363 cases, and in the last five years 6,134. I wanted to say in this connection that the difference between the official treatment of diphtheria as contrasted with small-pox is certainly very great. In small-pox we have older people to deal with; the average age is considerably higher than with diphtheria, there is therefore less trouble in separating children from parents. In small-pox there is very great fear of the contagion; with diphtheria it is not as great. People will expose themselves and allow others to expose themselves to the one when they would avoid the other. A still greater difference between the two diseases is in the matter of diagnosis. In small-pox it is very easy, and is almost always made at a very early stage. The physician either recognizes the disease himself at once, or calls an expert to make the diagnosis. In diphtheria it is not so. In diphtheria there is, as we know, oftentimes great difficulty in making a positive diagnosis. The child remains under suspicion for several days if not weeks, therefore the report to the Board of Health is delayed, sometimes until the child has died, and allows the consequent exposure more or less of other children to this disease, both to the family and to people who are liable to call at the house. Another difficulty in the way of treading diphtheria is the difference of opinion in the profession in regard to the true character of croup. There is a queston in the Society as to whether croup and diphtheria are one and the same disease, and so long as that difference of opinion exists, so long we shall have a large number of cases of a contagious disease, call it what you may, that will spread from one person to another, and cause croup in our community. The cases are numerous where the disease has spread from one person to another in a family, and beyond the family, while the physician has persisted in calling it croup, and therefore not contagious. Another difficulty which stands in the way of successful treatment by isolation of diphtheria is the fact that in Boston we have no adequate hospital accommodation, notwithstanding the fact that the city has been somewhat generous in providing greater facilities in the past year; and the accommodations, I trust, have not been used to their utmost capacity yet; still, we are constantly running across families where it is almost impossible to separate the children from the parents, or from each other, and the patients remains at home, and thus we constantly have a very large number of points of infection through the city, which never exists with small-pox, and which we cannot overcome. It becomes absolutely necessary, if we would treat diphtheria as we do small-pox, that the Board of Health shall have some place to quarantine such a family, in order to disinfect the house. Again, with small-pox, we have the great advantage of vaccination, which cannot be overrated. There are, in spite of the best we can do, some insurmountable obstacles in the way of treating diphtheria and reducing its prevalence in our city as we might do with small-pox.

Dr. GEORGE B. SHATTUCK. We are very grateful to Dr. Mason for bringing before us such a practical subject in such a practical way; and it is only by discussing such a subject in meeting, as we are doing to-night, that we can make some approaches towards creating precisely that public opinion which Dr. Durgin appeals to as necessary for the support of an executive body like the Board of Health; for it is very certain that a Board of Health is limited in its action, first of all by the powers which the laws give it, and secondly, beyond that, by the condition of public opinion even where the laws support it in active procedures; and our expectations in regard to what the Board of Health can do must be controlled, even beyond and outside of what the laws allow, by the condition of public opinion, which limits what the Board of Health can practically accomplish. I think there is a great deal in the point Dr. Durgin has made with reference to the difference between diphtheria and small-pox. There is an utterly different feeling in the community with reference to small-pox, and one comes across it in all sorts of ways. I remember in a trial in court with reference to typhoid fever, it was perfectly simple to convince the jury and the judge that you could not have a case of small-pox without a preceding case, but as soon as we attempted to tell them they could not have a case of typhoid fever without a preceding case, that seemed to them very extraordinary, a very singular theory indeed, and they immediately wanted to know, if that was so, where the first case came from. With reference to small-pox that difficulty never came to their minds. The public does not reason about these diseases, and you can't do with reference to diphtheria what you do with reference to small-pox.

There is the question of diagnosis. Among some of our brethren who practise medicine, and especially sectarian medicine, a single individual may have three or four hundred cases of diphtheria in his practice in the course of a year, and of this probably the mortality will be absolutely nothing. I remember such an instance not long ago in Springfield, where a distinguished sectarian practitioner described to a society how he had had several hundred cases of diphtheria in the course of the preceding year without any deaths whatever. One of the society, who had taken pains to look up the returns at the registrar's office, showed him and the society that he was mistaken in regard to this. But, of course, the question of diagnosis is a very difficult one, and cases may be returned as diphtheria which are not diphtheria, and on the other hand, it is perfectly easy to conceal such a disease as diphtheria, which has not any external manifestations. Whilst acknowledging all that, I still sympathize with the feelings which the chairman has expressed; and I think any one on duty at the City Hospital, where we have certainly an opportunity to see as much genuine and serious diphtheria as any other practitioners in this community, if not more, could not help wishing that something could be done. In some cases you cannot force patients to be isolated. I remember one of those unfortunate instances in which almost the whole family—the mother, a child at the breast, and two or three yonng children—were all brought to the hospital with diphtheria, and one of the children, I think, died; the father came and took the rest of the family away and took them home against every remonstrance. It does seem as though such a thing as that ought not to be allowed to occur. The father took them back to the same house in which diphtheria had occurred a certain length of time before they had inhabited it, and he took them back there because, he said, he couldn't go anywhere else. He made an effort to get other lodgings, and it was known his family had had diphtheria, and he was driven back to the same lodgings. Such things are constantly presenting themselves to our attention, and necessarily make us desire, if possible, that something might be done.

With reference to the mortality at the City Hospital, I don't think it is a large mortality, as mortality from diphtheria is recognised. I think that the statistics of the text-books and of other hospitals will show that the mortality is expected to range rather above 30 per cent. than below it. Many of the cases at the City Hospital are not only the worst cases, but are also, many of them, in the worst possible condition; and I think that it is rather surprising that under these circumstances the mortality should be as small as it is. Without going into the question of treatment I should like to say that, for many years, I have felt that the fact that the mortality has been kept at the point where it has been largely owing to the extremely skilful and faithful nursing which these patients receive at the City Hospital. I don't believe that that class of diphtheria cases would stand anything like as good a chance anywhere else under other circumstances, and for such cases as these, whilst it is important to have a sensible and experienced physician, I cannot help feeling that it is of fully equal importance to have an intelligent, and faithful, and devoted nurse, who is always on hand to carry out the minutest directions in the most prompt, and regular, and efficient fashion.

Dr. G. H. M. ROWE, Superintendent of Boston City Hospital. This is a subject in which I am much interested, as it involves so much experience in regard to the care of the patients with diphtheria at the City Hospital. The Board of Health for several years have appealed to us for greater facilities for the care of patients with contagious diseases.

The same thing has been done in the City Hospital Report, in the Trustees' Report, and in the Superintentents's Report, for at least seven years previous to the time when we received our appropriation. Formerly these patients were taken care of in the mixed wards called K and L. The mortality was thought then to be large. The number of nurses who contracted diphtheria was very much larger then than it has been since the new wards were erected. It was only by publishing openly in the City Council the fact that patients had come in there with one disease and contracted another—nine cases in one winter, of whom four died—that the appropriation was gained. I think it is an open question whether diphtheria wards should be attached to a city hospital; but it was Hobson's choice at that time. The Glasgow Hospital, which has been alluded to by Dr. Mason, is, as far as my knowledge goes, the finest hospital in the world, and the regulations for the separation and isolation of contagious diseases are the best I know of—rules we are not able to enforce at the City Hospital. Our new wards, of course, were experimental in a large measure, but experiments have proved that they are eminently successful in heating and ventilation. There is one fault which could be remedied, and that is that the fresh air supply is not equal to the exit. The system of ventilation is such that fetid odours are carried off rapidly. The accommodations have never been filled to their utmost capacity. We have accommodations for forty-two patients with diphtheria. At no time have there been more than twenty-seven, and it is rare that there are above twenty-two. In previous years the Board of Health has been clamouring for a place to carry these patients. The city government through its Council has supplied such a place, and yet it appears from statistics which are well known to the gentlemen connected with the hospital, that the mortality this year has been something that is, I may say, alarming. It is so much so, and recognised at the hospital to such a degree, that the nurses, although very anxious to see the result of the experiment, become depressed after they get into these wards, and are glad to be relieved and sent elsewhere. They work with the utmost faithfulness, and yet, patients who seem to be doing well often die suddenly from septic symptoms or heart failure. That has a very depressing influence upon the nurses. During the last week in November Dr. Prescott made some statistics. They are not made with reference to publication. They are very nearly the same as those by Dr. Mason. The total number of patients with diphtheria admitted this year was 337. Dr. Mason has given the statistics of the patients admitted on the medical side. I have those who were admitted on the surgical side up to about the 5th or 6th of December. To that date the total cases admitted on the surgical side was 139. Out of that number the deaths were as follows: Tracheotomy was done in thirty-five; of that number, five recovered and thirty died. Intubations, seventy-one; fifty-four died and seventeen recovered. By another classification, of those cases on whom intubation was first done, and subsequently tracheotomy, comprising sixteen cases, all died. Out of seventeen cases on whom no operation was done, for various reasons—mostly because they were septic, and operation deemed useless—four recovered and thirteen died. That makes a total of eighty-seven deaths. The total deaths were 53 per cent. at that time. The total admissions to the City Hospital in five years have been 960; in four out of five years 333 cases have died. When the new wards were opened, I sent a communication to the trustees, recommending certain rules in regard to the isolation of cases and to the limitation of visitors. It was decided that the practice of admitting friends should go on in a tentative way, and the attempt be made to limit them as far as possible. Practice has shown that what Dr. Durgin says holds true: it is almost impossible to shut out the parents from their children; and if any attempt of that sort is made, they immediately take their child away. One invariable rule is that patients with tracheotomies and intubations are considered as *dangerously* ill. The parents are admitted at all times before eight o'clock in the evening. We are practically able to exclude all friends except the parents, but beyond that, it is very difficult to go in wards attached to the hospital; it is only possible when we have them isolated and separated. The only way to bring this about has been intimated by Drs. Lyman, Shuttuck, and others, and that is the creation of public opinion. If the Board of Health cannot do it by its rules and regulations, and by expression of opinion through their reports, and in other various ways; if the City Hospital, through its annual report, and that of the superintendent and trustees, are not able to accomplish it—the only way out of it would seem to be that the profession, through its societies, in some formal way should try to educate the people to a better state of public opinion. A conference with the Board of Health has been suggested. Until public opinion is created, so that it shall influence the uneducated classes, and until some such legal restrictions are made for diphtheria as for small-pox, it seems to me impossible to stop it. When that period is reached, it seems to me that a great deal will be accomplished in reducing the mortality, and also in reducing the amount of disease. At the present time there are eighteen or nineteen cases of diphtheria at the City Hospital. The ward for scarlet fever has been closed, with the exception of two cases, for nearly three months.

Dr. C. F. WITHINGTON: My experience of diphtheria, so far as hospital work is concerned, is limited to the out-patient department of the City Hospital; and I am sorry to say that patients with diphtheria come there, and it is not an infrequent occurrence to find, in looking over the patients in the morning, that a patient with diphtheria has been sitting in immediate contact with other patients in the waiting-room. That, I suppose, is not peculiar to the City Hospital out-patient department. The same must necessarily happen more or less in all outside clinics. It is to be hoped that when the new building is completed at the City Hospital, some opportunities will be found to question patients, at least sufficiently to indicate the possible existence, not only of diphtheria, but of other eruptive diseases, so that these patients can be removed from contact with the others.

A question which has been of a good deal of interest to me of late has been with reference to the comparative frequency of diphtheria in the various wards of the city. I would like to know if the records at the Board of Health's office show the distribution as to the wards of the city; because, it seems to me, that it is a matter of considerable importance. It is generally assumed that a great deal of the diphtheria comes from the North End districts, and other more crowded portions of the city. In Roxbury there is considerable prevalence of diphtheria for the last year. One of the cases reported—Case 3—I saw before she entered the hospital. Her surroundings were certainly not such as to give any clue to the origin of the disease in her case. In one house in that district, apparently in perfect sanitary condition, a well-built, large house, in 1876 there was a case of diphtheria in a woman of sixty or upwards, who died. The family then moved away. Two years later a young woman was confined in the house, and died of puerperal fever. Her servant went home with a sore throat, which was serious, and whether she recovered from it I do not know. A sister of the lady sick with puerperal fever went home and developed typhoid fever; she was seriously ill. Another family took the house for a year or two, and in 1880 another case of diphtheria occurred in the same house in a child. Last summer a lecture was published in the *Boston Medical Journal* in regard to the relative frequency of diphtheria in urban and suburban communities. The conclusion was drawn from some fifty different outbreaks of diphtheria, mostly in suburban communities, that in a pretty large number of cases of diphtheria it was impossible to trace the first case of the epidemic from a previous case. In only four out of fifty could the writer trace the first case from a previous case of diphtheria, and that he was inclined to believe that a certain number of cases of diphtheria may develop from general insanitary conditions, possibly irrespective of a specific contagion from a previous case. That evidence was tolerably strong in his cases. He cites a number of parishes of over 1,000 inhabitants which had a small number of cases of diphtheria in this period of years, while in another series of smaller parishes the frequency of outbreaks was proportionately large. The figures he gives seems to me not to be borne out altogether by the figures in this country, so far as I have been able to ascertain. The last monthly report of the New York State Board of Health, for instance, gives the frequency of the deaths from diphtheria for the month of November, 1888, in the different districts of the State, and of course the mortality by direct conveyance of disease from one to another would naturally be expected to be greater in the cities, but in spite of the fact that treatment is more active there than in the country districts, the preponderance was greater in cities like Brooklyn, and Albany, and Troy, than in the black-country districts; whereas, the report of Dr. Barnes just referred to gives a much larger number of occurrences in the remote districts than in the larger cities. I should like particularly to know whether the occurrence of diphtheria is very much greater in the wards in this city which approximate more nearly the country conditions than in the more crowded wards, or the reverse.

Dr. DURGIN: I cannot reply with exactness; but in the past year the distribution has been scattered over the entire city much more than in any previous years. As a matter of guess-work, I believe that the percentage of cases of diphtheria in the population of the out-lying districts is rather greater than that in the more densely populated parts of the city. I think that Dr. McCollom could give a better opinion upon that subject than I, because he sees more of the cases. Dr. McCollom and his assistants usually see most of the cases, particularly those in the central part of the city. I would like to call attention to one or two points in relation to this disease, and one is the repetition of the disease in the same patient. The text-books, I think, say that one attack seems to predispose the patient to subsequent attacks. Although my own personal experience has not been a large one, this statement of the text-books has not been borne out by my observation; and I have fallen in with very few physicians who have found that that was true. We

occasionally hear a patient say that she or he has had diphtheria several times before. Of course that is partial evidence. I know that some physicians have seen a second and perhaps a third attack in the same patient. Of course, if this is largely true, it gives us a much less advantage in taking care of diphtheria than in taking care of most of the other contagious diseases. I should be glad to hear expressions of others who have had experience with diphtheria on that point.

The matter of removing a patient with diphtheria from the City Hospital is a serious one. Legally, I think, neither the trustees nor the Board of Health would have the right to retain such a patient contrary to his desire.

Dr. ROWE: Of course we adapt our policy to the class of people we have to deal with. In a large number of cases we have dissuaded them from removing patients with this disease. In all cases where such people remove them they are discharged as going on their own request and against advice. We have a printed form for such cases, and at the end we state that they remove their child or friend, knowing the disease to be diphtheria and dangerous both to the patient and the public, and they take the entire responsibility, freeing the hospital and its physicians and the authorities from all responsibility. There is a certain more ignorant class to whom we say, "It is impossible to take your child away." We say it to the Poles and Huns. "You cannot do it without permit from the Board of Health." If we should make it a test case there might not be sufficient power with the Board of Trustees to retain a given case. If patients are taken from the City Hospital it should be understood that it is not done until after measures are used, some of which are fair, and some, perhaps, not quite truthful, with the more ignorant classes, to retain them.

Dr. G. B. SHATTUCK: I should be sorry if any gentleman present got the idea from anything I said, that I supposed, or meant to indicate that there was any power vested in the City Hospital or its board of trustees to prevent such an occurrence. I cited the occurrence to indicate to the society the position of public opinion, and the difficulties in dealing with this question, where such a thing as this was possible and legal, and could be done, and could not be prevented; and it is exactly one of those points which we want to educate public opinion to deal with, and to stimulate our lawmakers to make laws with regard to. With reference to the family I cited, the father there was a very independent, intelligent New Englander. If he had been a Pole or Polish Jew, or German or Austrian, then, as Dr. Rowe says, there would have been some hopes of dealing with him, because he is used to a paternal form of government. It is difficult to make our diagnosis in many of these cases. Then as soon as we have made our diagnosis, it is a pity we have not the power, by law or public opinion, to isolate our patients.

Dr. DURGIN: In a case of small-pox we never take a child without its mother or sister with it if possible, and that generally constitutes all the visiting allowed in the hospital. In very few instances the mother has been allowed to come to the hospital after the child has been removed to the hospital, but is always retained until the anxiety is over, and then thoroughly disinfected and carried home. I don't think that the City Hospital trustees or the superintendent can be held to blame at all for the withdrawing of the patient. I don't understand that they have any legal right to retain them.

Dr. G. H. LYMAN: I should like to ask the law on that point; if the law gives the board of health the power to isolate a small-pox case, why should it not have the right to isolate a case of diphtheria?

Dr. DURGIN: It has the same right.

Dr. LYMAN: These patients come in by order of the board of health; ought not they to be retained until the board of health gives permission to have them removed?

Dr. DURGIN: I don't understand that the board of health has control over a patient after entering the City Hospital. We have the power to start them for the hospital, but no control after they are in it, the hospital not being in charge of the board. The line where our authority begins and ceases in that case is not quite clear. I can only say that when we have left the patient in the charge of the officers of the City Hospital I don't understand that we legally have any further right, can exercise any further right, can exercise any further control over him. In our own hospital—one established and maintained by ourselves—we would have a perfect right to retain them until all danger from contact with others is passed.

Dr. G. H. LYMAN: I should like to ask whether under the law the board of health must isolate all persons in any one special place; cannot the board isolate them in the City Hospital as well as anywhere else? What is the difference? Does the law state that a small-pox hospital shall be for and under the control of the board of health, or that the board of health shall have authority to isolate these cases. Suppose they choose to isolate them in a tent?

Dr. DURGIN: In that event we should do precisely as we do in a dwelling house. We place our own officers there. They are our agents and have the right. We cannot make Dr. Rowe an agent of the board of health. We could go there personally if we had the right to retain a patient as in a dwelling house or in a tent. I give an unprofessional opinion in the matter. It is purely a legal question, which I don't wish to stand in the light of a lawyer in answering.

Dr. H. OSGOOD: When a patient leaves the hospital after having been confined a few days, it seems logical to suppose he is in a worse condition than when he enters, and consequently the patient is less protected than when first sent to the hospital, as we will suppose, by the board of health. I would like to ask Dr. Durgin if this society as a body could not present a memorial to any authority, either to the city or the State legislature, which will give the board of health the necessary power, and, if such a memorial would be of use, to what authority should it be presented?

Dr. FOWLER suggested that the work of the committee should be directed particularly to the investigating, and to conferring with regard to diphtheria, and not take in the other contagious diseases.

Dr. MARION: I have been extremely interested in the papers and the discussion which has been elicited, and I feel quite unequal to saying anything of importance upon the subject, feeling as I do, that the more I see of diphtheria the less positive I am in my opinions as to its nature and everything concerning it; so uncertain am I of late, that when I see a case, with reference to diagnosis, I very often say I don't know. What seems to be a case of sore throat may be a case of diphtheria. When asked how long it will last, I tell them frankly I don't know. If the child is not better within a week I think it is very serious. In ward 25, with a population of between nine and ten thousand, during October, November, and December, there were reported to the board of health seventy-four cases, I think, a very large proportion of diphtheria it seems to me; and this has been equally distributed about the ward, not being confined to any particular locality, not confined to streets where they have sewers, to houses where they have water-closets or privies wholly, where they have used well water or water from the mains. No one marked feature has been noticed except that it has been generally distributed through the ward. With the epidemic or endemic in Brighton, there has been a large number of cases of measles running along with it in the same family. The matter of heart failure has been referred to. It seems to me I have noticed that phenomenon more in this epidemic than ever before. With reference to heart failure in one family not reported as diphtheria, the child, as the mother told me, was choking. Upon examination, it seems the child had faucial paralysis with enlarged glands. All the children had had sore throats, this child included. Within a week after I first saw the child I was called again, and found three of the children down with measles. This child was with the rest, came on with the same symptoms, but instead of having a good square eruption it was very pale, the pulse hardly perceptible. The child died that night in the first stage of measles. I returned it as a death of heart failure in the initial stage of measles, heart failure from paralysis due to diphtheria. In two or three other cases of measles I have noticed heart failure.

Dr. Durgin refers to the repeated attacks of diphtheria in the same individual. In this epidemic I had a rather interesting case where a child came down with diphtheria, went through the regular stage of about ten days and recovered, and a day or two following showed the first signs of measles. The measles went through its regular course, and before the child was allowed to leave the room again a membrane developed on the fauces, and I believe it also extended into the larynx, as the child entirely lost the voice and was hoarse several days, but recovered. On the repetition of diphtheria in the child, the mother also came down with diphtheria.

Another subject that Dr. Durgin has alluded to is with reference to croup. I suppose that that is, and always will be, a disputed point. I don't know that all croup is not all diphtheria; there are some cases that certainly don't get reported as diphtheria. A case that has recently happened in the ward might illustrate what I mean. The children were all sick with measles under the care of a physician practising sectarian medicine. This child after going through the measles was attacked with croup. The child had the operation of intubation and died within twenty-four hours; was allowed to have a public funeral, was embalmed and had a "wake." Two days after the funeral the remaining two children of the family were sent to the City Hospital by my brother. On the following day I sent the woman to take care of a child during intubation, and subsequent to that there were several cases of diphtheria, but still the first case was claimed to be a case of simple pure croup. I fancy that often-times it goes that way. In connection with diphtheria it was my fortune to see several cases of diphtheria following croup; in most of these instances there was laryngeal complication, even when not coming to a fatal issue. I have an interesting case to allude to in connection with diphtheria in the puerperal state. On the 30th of November, a lady called at my office with a very severe sore throat. Being unable to

make a diagnosis I gave her directions to go home and let me know if she saw anything in the throat that looked peculiar. The next night they found a very slight patch. I at once instituted the treatment for diphtheria; and the following day the fauces, soft palate, and both tonsils were covered with the characteristic exudation of diphtheria. She expected to be confined on the 5th of December. The diphtheritic process went on its regular way, and she was confined on the morning of December 5th, Everything went well. She had a very slight elevation of temperature that day; it fell back where it had been before. It did not begin excessively high—101° or 102°, and in ten days she was convalescent, and within two weeks the fauces, I think, all cleared. The child was taken immediately from the room and in another part of the house. The child was covered with an eruption of sudamina which changed to a milky appearance and disappeared. The mother did well. When the boy was twenty-four days old I was called to see it, as it could not breathe through its nose. I found a characteristic discharge of thin yellow serum, and felt sure it was going to be a case of nasal diphtheria. The following day a whitish membrane had formed near the anterior opening in both nares, and three or four days after that a patch of diphtheritic membrane had formed in the roof of the baby's mouth, and extended back with just a trace on one tonsil. Further than that it did not extend, and it is still under treatment. The exudation has not disappeared from the roof of the mouth as yet. It is a complication, and when it was first presented I did not know what to think or how to act. It was one of the unusual complications.

Dr. McCollom, in answer to Dr. Withington's question in regard to the prevalence in the different localities of the city, presented a list of the number of cases in Boston for 1888, with the wards and relative area and the number of inhabitants. In Ward 1, fifty-nine cases. That is East Boston, comprising the hill and a portion adjoining Chelsea. Population, 15,656.

	Ward 1	59	15,656		Ward 14	41	22,738
	,, 2	16	15,700		,, 15	49	16,219
	,, 3	16	12,328		,, 16	65	16,435
	,, 4	28	12,518		,, 17	35	14,747
	,, 5	26	12,827		,, 18	27	14,141
(2)	,, 6	119	17,244	(5)	,, 19	81	20,577
(6)	,, 7	67	12,038	(4)	,, 20	85	27,983
	,, 8	30	11,286		,, 21	40	15,620
	,, 9	11	11,289		,, 22	49	15,834
	,, 10	11	9,745		,, 23	38	17,424
	,, 11	32	17,865	(3)	,, 24	110	21,500
	,, 12	31	13,845	(1)	,, 25	141	8,523
	,, 13	35	22,547				
		1,411 cases.	390,597—415,000.				

In Dr. Marion's ward (twenty-five) 141 cases. Population 8,523. This is a rather remarkable circumstance, because we would naturally suppose that to be the healthiest portion of Boston. A very great number of the houses are isolated, more so in Ward 25 than in any other portion of the city, and yet with a population of 8,524 they have had 141 cases. In all there have been reported 1,411 cases throughout the whole city during the year, and the relative frequency is, first ward, twenty-five; second ward, six; third ward, twenty-four; fourth ward, twenty; fifth ward, nineteen. There is very little to be learned from the other figures, because they are so nearly alike.

A good deal has been said about isolating these cases. Of course it is of importance to isolate them, but how can it be done? We have an entirely different state of affairs in diphtheria from that which exists in small-pox. In the first place we must educate the people up to the idea that diphtheria is *contagious*, and no one more fully realises the importance or necessity of that than I do. I hear the remarks every day that diphtheria is not contagious. "If the child had small-pox or scarlet fever we would send the child to the hospital." In some cases where the parents consent to have the child go to the hospital, the family physician comes in and says: "Oh no, you had better not send her to the hospital. The child will be better in a day or two." He can't go against the family physician. No health officers, no one, can remove a patient from any house to a hospital unless the attending physician says that the patient can be removed without injury, We cannot state that there is absolutely and positively no danger. I think very few gentlemen here would care to take a posse of police officers and remove the child from its mother to the hospital, or force the mother to go. It has been done frequently in small-pox, but the community would not sustain the Board of Health in so doing in cases of diphtheria. It can be done by educating the people up to that point; and through the influence of the members of this Society we can accomplish a good deal.

Take the cases in Brighton. Dr. Marion has sent many cases to the hospitals and done much good. Suppose some one else had been there who did not believe diphtheria was contagious, we might have had ten times as many cases in Brighton as there have been.

Another thing, a good many of these cases are not reported until after the patient's death. It is a common thing for a patient to die, and the first report we get of the case is the death certificate. The patient may have had a physician and the physician told them that the child had "sore throat," which is not reported.

It is desirable to have some place where we can send the children who are well, so that they may be watched, and the moment they come down with the disease be sent to the hospital.

As to the question of diagnosis: it is difficult in the first twenty-four hours to say absolutely, "It is diphtheria." We can advise cases to go to the hospital, but when making a forcible removal we must be *sure*. Mild cases are very apt to give rise to trouble, and the same thing is true of all contagious diseases, that the mild cases are very much more dangerous to the public health than the severe cases, because they go round everywhere and spread the disease almost indefinitely. These are some of the difficulties with which we have to contend, and for that reason I have spoken at length about them, because it is important that we take hold of the matter understandingly and see if there is not some way we can stamp out the epidemic to a certain extent.

I have seen quite a number of cases where people have had undoubted attacks of diphtheria a second and even a third time. I have in mind a case where an epidemic went through a whole family; three died and two lived; and since then there has been two attacks of unmistakable diphtheria. So far as hear-say evidence is concerned, we are constantly running across such cases. If a patient can have diphtheria three or four times we must be on our guard more than if they had the disease once in a lifetime.

Dr. H. E. Marion presented the specimen of a cast of trachea which he took from a child in 1871, thinking it a case of croup.

Dr. Farlow: As an additional means of preventing the spread of diphtheria it seems to me there is something we can do toward the well children of the family. Diphtheria is a disease much more common in children than in adults. Children are subject to nasal catarrh, etc., consequently they are much more liable to the absorption of germs; so that if there is a contagious disease in the family, I think it is incumbent on the family physician to institute preventive measures, to see if there is any catarrh about the gums, or tonsils in particular, and if so, some alkaline douche should be used. Where there is a suspicion of diphtheria I think the children should be rigorously inspected. I don't think a physician does his duty who comes into a house, gives a doubtful diagnosis, and says: "Wait two or three days," without instituting some preventive means with regard to the other children; and it seems to me that the prevention is much more important than the cure, although of course the cure is the thing the family look for. If we can prevent the disease by keeping the throat in a healthy condition we are doing very much more than most physicians are doing now. It is what we should endeavour to accomplish.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.

An important and interesting meeting of the Medical Sickness, Annuity, and Life Assurance Society was held on Wednesday, April 17, at 38, Wimpole-street, under the presidency of Mr. Ernest Hart. There were present Mr. J. Brindley James, Dr. Major Greenwood, jun., Dr. R. Lord, Dr. F. S. Palmer (of East Sheen), Mr. W. J. Stephens (of Brighton), Dr. J. W. Hunt, and Mr. F. Wallace. Mr. S. W. Sibley, Dr. W. Bruce (Dingwall), Dr. W. M. Ord, and Dr. F. De Havilland Hall, were prevented from being present by their engagements. From the quarterly report read to the meeting, it appeared that the progress of the Society had been fully maintained, and its operations had been of a valuable and satisfactory character. The sickness experienced and compensated, though well within the rate anticipated in the tables, had been considerable—as many as sixteen claimants having been paid in one week, and over sixty guineas a week paid for two or three in succession. The illnesses included some of a very serious nature, as locomotor ataxy, chronic myelitis, iritis, and gangrene of the lung; and others of a minor character, as measles and whooping-cough. There had as well been payments on account of several cases of disablement arising from accidents. During the quarter, forty-one new members had joined, and the effective membership had risen above 950. The annual premium income was stated to be over £10,000 a year, that to the sickness fund alone being over 100 guineas per week, while the entire working expenses of the Society were under £500 a year. The total funds of the Society on March 30th amounted to £30,638, an increase of £1,919 in three months, and of £8,035 in twelve months. Of this sum £30,263 is invested on behalf of the members in the names of the four trustees—Sir T. Spencer Wells, Bart., Mr. Ernest Hart, Dr. W. M. Ord, and Mr. J. R. Upton.

The first quinquennial valuation of the affairs of the Society was produced. This has been made by Mr. F. G. P. Neison, the eminent actuary. The results are very satisfactory, the sickness rate having been found to be but 67 per cent. of the expectation, and the mortality even more favourable. A large financial surplus is the gratifying result, and though the actuary is naturally anxious to guard against premature allocation of the surplus, he speaks in high terms of the efficiency with which the Society's affairs have been conducted, and warmly congratulates the members on the pronounced success it has achieved. Information as to the Society, with printed particulars, proposal forms, etc., will be supplied free of cost on application to the Secretary, Mr. C. J. Radley, 26, Wynne-road, Brixton, London, S.W.

Medical Miscellanea.

THE subject of our next illustration will be Dr. Martin de Bartolomé.

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Professor Virchow is said to be re-writing an edition of his great work on "Cellular Pathology."

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Dr. W. T. Robinson has been presented with an address and a piece of plate on his leaving Southery, Norfolk.

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The death of Professor Donders, of the University of Utrecht, took place on March 20th, in the seventy-first year of his age.

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Dr. Leslie, physician to the Congo Police State, has received the star for distinguished merit from the King of the Belgians.

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Surgeon-General W. A. Mackinnon, C.B., has succeeded Sir Thomas Crawford, K.C.B., as Director-General of the Army Medical Department.

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The Parkes triennial prize of £100 and a gold medal has been awarded to Surgeon R. H. Firth, Army Medical Staff, for the best essay "On the Etiology and Prevention of Yellow Fever."

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The honorary degree of Doctor of Laws has been conferred by the Senatus Academicus, Edinburgh University, on Dr. Richard Quain, of London.

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Dr. Ray Lankester has been elected a member of the Athenæum Club by the committee, in accordance with the rules of the club, which empower it to elect, annually, nine persons of distinguished eminence, in literature, science, or art, for public services.

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Mr. Jonathan Hutchinson, Jun., F.R.C.S., has gained the "Jacksonian Prize" of the Royal College of Surgeons of England, 1888-1889. The subject of the prize for 1890 is "The Nature and Treatment of Injuries to the Spinal Column, and the consequences arising therefrom."

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The death is announced of General Staff-Surgeon Von Lauer, who from the year 1844 till his death acted as the trusted body physician of the late Emperor William, and attended him in his last hours. The Emperor William I., the Emperor Frederick, and even the present Emperor, often bestowed on him many favours.

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The Gazette publishes the announcement from the War Office that the Queen has approved of a large number of surgeons-major of the volunteers being granted the rank of lieutenant-colonels. Her Majesty has also approved of a further number of surgeons-major ranking as majors, and of a number of acting-surgeons being promoted to the rank of surgeon.

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The *Gazette* makes the following announcements: Surgeon-Major Sir Douglas Maclagan, Kt., M.D., the Queen's Rifle Volunteer Brigade, to rank as Lieut.-Colonel; P. Heron Watson, M.D.; and U. G. Miller, M.D., Surgeon-Majors of the same regiment, to rank as Lieut.-Colonels; and Sir William Turner, Kt., Honorary Major commanding the University Company of the same regiment, to be Major.

The Princess of Wales has become a patroness of the National Association for Supplying Female Medical Aid to the Women of India.

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The Matriculation Examination of the University of London will this year, and in future, be held a week earlier than before, commencing on June 1st.

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At a special meeting of the Fellows of the Royal College of Physicians, held on April 15th, Sir Andrew Clarke was unanimously re-elected president for the ensuing year.

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Mr. William Agnew has given £1,000 to endow a cot at the Children's Hospital, Manchester. He has also allowed a further extension of time of his offer of £200 towards £1,000 to be raised for the purpose of sending convalescent children to the sea-side.

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Mr. Cadge, of Norwich, has placed in the hands of the hospital authorities £10,000 towards the hospital. The *Norwich Eastern Daily Express* has the following paragraph relating to the gift: "About eight years ago Mr. Cadge said he was empowered to state that under certain conditions an 'anonymous governor' had promised £10,000 to revert to the hospital after the decease of himself and his wife. Associated with this offer was a condition that a sum of money should be subscribed by the public, and that the new building should go on to its completion. Every condition was fulfilled, but the anonymous donor continued to live on, and the £10,000 did not come into the exchequer of the institution. On Saturday it transpired that Mr. Cadge was himself the person referred to, and he will at once place £10,000 in the hands of the hospital authorities. Canon Copeman expressing the obligations of the public towards the donor of this munificent gift, said were it not for the offer of the anonymous governor the hospital would now have been without £5,000 subscribed by the public, and £2,000 by Lord Leicester, so that the institution was really indebted to Mr. Cadge for £17,000.

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Mr. William Thompson, surgeon to the Richmond Hospital, Dublin, has been appointed by the Lord Lieutenant of Ireland to the vacant seat on the Board of Governors of the House of the Industry Hospitals, from which Dr. Mapother recently retired. The selection is important, because it strengthens the influence of the medical staff of the hospitals on the Board. Since the retirement of Sir W. Stokes from the Richmond Hospital and his migration to the Meath, the Surgical side of the House of Industry Hospitals has had no representation on the Board, although Sir William still holds the seat thereon. It would be an unfortunate condition of affairs if the most important division of the hospitals remained without a delegate on the management. Mr. Thomson has also been elected at the head of the poll to be a senator of the Royal University of Ireland, a position which he has held for several years with great advantage to the interest of the medical graduates and students. Mr. Thompson's competitors were Professor Sinclair, of Belfast, and Mr. Farrelly, who represented the radical element of the Convocation at one time, but lost his seat a year ago. The voting was:—Thompson, 522; Sinclair, 493; Farrelly, 93.

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CHILDREN'S HOSPITAL, LEICESTER.—With the object of adding to the funds necessary to the establishment of a Children's Hospital, a very successful concert was given in the Floral Hall, Leicester, on Monday Evening, April 8th, by the Reed Band connected with the works of Messrs. John Richardson & Co., Friar Lane. The concert was well patronised by all sections of the community, the hall being crowded in all parts, which fact tends to prove the popularity of the movement. The performances of the band (which comprises thirty instrumentalists, all employees of the firm) were excellent and a most gratifying reception was accorded to them. The following was the programme:—Overture, "Titus" (*Mozart*); polonaise by the Prince of Oldenburg; selection, "Faust" (*Gounod*); cornet solo, "The Lost Chord" (*Sullivan*)—solo by Mr. H. A. Allingham; waltz, "Brise des Nuits" (*Lamothe*); selection, "The Yeomen of the Guard" (*Sullivan*); fantasia, "Concord" (*Buot*); selection, "Dorothy" (*Cellier*); clarinet solo from "Ernani" and "Sonnambula"; (solo by Mr. H. Burbidge); fantasia, "Reminiscences of Wales" (*F. Godfrey*); galop, "Post Horn" (*Kœnig*). Previous to the concert the members of the band presented the conductor (Mr. H. N. B. Richardson) with a handsome silver-mounted baton, bearing the inscription—H. N. B. R., from his band, 8th April, 1889. After all expenses were paid the handsome balance of £25 was handed to Ald. Wright, chairman of Children's Hospital Fund.

The annual dinner of the Pharmaceutical Society of Great Britain will take place at the Freemasons' Tavern on Tuesday, May 14th, at 6-30 for 7 p.m.

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A handsome brass, mounted on marble, and dedicated to the memory of the late Professor du Chaumont, M.D., F.R.S., has just been placed (with the sanction of the War Department) in the chapel of the Royal Victoria Hospital at Netley. The subscribers to the memorial were limited to the past and present members of the teaching staff of the Army Medical School.

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The organisation of the Continental Anglo-American Medical Society has proceeded so far, that it has been arranged that the first general meeting shall be held on September 30th. Sir Spencer Wells, Sir Joseph Lister, Dr. Quain, Professors Ball and Brown-Sequard, have been asked to become honorary presidents of the society. The executive committee consists of the following gentlemen, resident in Paris: Dr. the Hon. Alan Herbert, Dr. Faure-Miller, Dr. Chapman, Dr. E. Dupuy, Dr. Barnard. The secretary is Dr. Thomas Finn, 16, Rue de la Paix, Paris.

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At the ordinary meeting of the Wigan Medical Society, held in the board room of the Royal Albert Edward Infirmary, Wigan, on Thursday the 11th inst. Mr. Hardie, F.R.C.S., Eng., Surgeon to the Manchester Royal Infirmary, gave an able and instructive lecture on Plastic Surgery illustrated by numerous photographs. There was a good attendance of members, and the lecture was highly appreciated. At the same meeting the following resolution was submitted by the president and carried *nem. con.*:—"That this Society cordially approves of the bill about to be presented to Parliament by which it is proposed to restore to the members of the College of Surgeons a free and unrestricted exercise of their ancient rights and privileges."

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During the Exhibition at Paris there will be a number of medical congresses. The International Congress of Therapeutics and Materia Medica will be held at Paris on the 5th of August, 1889, at 28, Rue Serpente, in connection with the Universal Exhibition. Medical men, apothecaries, and veterinary surgeons who shall have sent in their names and paid the fee of ten francs will be entitled to take part in the proceedings. The committee is composed as follows:—President, Dr. Moutard-Martin; Vice-President, Dr. Dujardin-Beaumetz; Secretaries, Drs. Constantin Paul, P. G. Bardet, Labbé, and R. Blondel. The Congress will be divided into two sections—Therapeutics, and Materia Medica—and the discussions will be carried on in different halls. The following subjects will be discussed: Antipyretics and Analgesics; The Antiseptics suitable for each Species of Pathogenetic Microbe; Cardiac Tonics, their Nature, etc.; New Drugs of Vegetable Origin recently introduced into Therapeutics; The Unification of Weights and Measures in Prescriptions, and The Advantages of an International Pharmacopœia. Members of the profession wishing to attend the Congress should communicate with Dr. Bardet, 119*bis* Rue Notre-Dame-des-Champs, Paris. The titles of papers proposed to be read before the Congress should be forwarded to the secretary before May 15th.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16th of the month.

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

AMENDMENTS TO FRIENDLY SOCIETIES ACT 1875.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—The following is a list of amendments to the Friendly Societies Act of 1875, which shall be posted this day to the House of Commons Committee on Friendly Societies now sitting:

(1.) It shall be an offence for any president, secretary, or committee-man to receive a bribe from the medical staff, chemist, or dispenser, or from members or parties receiving death-claims, or allowances for sickness; or not to surrender to the society's funds reductions made for commodities or services for the society secured or employed. No society within the meaning of the Act to be exempt from this subsection.

(2.) It shall be an offence for any president, chairman, or committee of a friendly society included in the Act, collecting more than three miles away from the place of meeting, to expel any officer not guilty of theft or of embezzlement, or any member not out of benefit, from the society; or to exclude from a general meeting any officer or member. Such actions shall be deemed infringements on the rights and prerogatives of the members at general meetings.

(3.) It shall be an offence for any president, chairman, other officer or officers, to close a general or other meeting without a vote to this effect from the members present. No society included in the Act shall be exempt from this injunction.

(4.) While a general meeting may pass a resolution for calling a *special* meeting of the members, it shall be deemed a misdemeanour for any president, or other officer or officers, or the committee, or any party aggrieved, to exercise this power only through the medium of the Chief Registrar with the consent of the Treasury. This subsection shall extend to every society within the provisions of the Act.

(5.) It shall be an offence for any president, other officer, or for the committee to practically ignore or disobey an injunction, order, or decision, of a general meeting of the society. This subsection shall include every society within the meaning of the Act.

(6.) It shall be an offence for any collector, or for an inspector of collectors books or cards, to vote, take part in, or to be present at a general meeting; and an offence for any president, chairman, or committee-man to tolerate at a general meeting the presence of a collector or an inspector. This subsection shall include every society within the provisions of the Act.

(7.) While general meetings of members or of delegates shall have full power, in accordance with dictates of justice, to modify, augment, or diminish the salary of any officer or servant, it shall be deemed a misdemeanour for any officer or officers to assume this prerogative. No society, included in the Act, shall be exempt from this subsection.

(8.) That parents and guardians entering and paying subscriptions for young persons, shall in all societies within the provisions of the Act, have power to vote and take part in general meetings, and it shall be an offence to prevent their doing so, rules to the contrary notwithstanding.

(9.) That as the health and lives of the members generally are entrusted to the medical staff, and as it is an imperative necessity that a medical officer should be estimated according to his merits, and not by his submitting to bribery, no president or other officer, or committee, shall be empowered to employ, discharge, or suspend, or to alter the salary or fees of a medical officer. All matters relating to the conduct, and all jurisdiction over the medical staff, shall be exercised solely by the members at general meetings. No society employing medical assistance, included in the Act, shall be exempt from this subsection, and violations of which shall be deemed offences.

(10.) That it shall be an offence, involving the president, secretary, and the committee, not to send yearly medical and other accounts to the Chief Registrar, or not to supply the members with a correct statement of the said accounts annually. This subsection to apply to all societies under the provisions of the Act.

PHILALETHES.

THE MEDICAL ASPECTS OF BOURNEMOUTH AND DR. CRESPI'S ARTICLE ON BOURNEMOUTH AS A HEALTH RESORT.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—My attention has been called to-day (April 13) to the following editorial remarks in *The Bournemouth Guardian* :—"In a long article, in the April number of the PROVINCIAL MEDICAL JOURNAL, on Bournemouth as a health resort, from the pen of Dr. A. J. H. Crespi, of Wimborne. . . . the writer attacks Dr. Dobell's work on the 'Medical Aspects of Bournemouth,' and complains that Bournemouth is not what Dr. Dobell makes it out to be. 'Dr. Dobell,' he says, '*does not hesitate to claim for Bournemouth the proud pre-eminence of having the most perfect and genial climate under the sun*, and fewer people would leave it disappointed were the descriptions, that are published, more in accordance with fact; but when people are told that they will find a perfect climate, and that the sun always shines there, even on the coldest day, they cannot fail to be disappointed."

"We have seen Dr. Dobell's work, but we do not remember having read in it a statement that Bournemouth enjoyed an endless day of cloudless sky and bright sunshine. . . However, we leave the contradiction of this statement to Dr. Dobell himself, together with the inference which Dr. Crespi makes from the comparative barometrical analysis with which he furnishes his readers."

Since reading the above, I have looked through Dr. Crespi's article, which had hitherto escaped my notice; and as I have no reason to suppose that he wished deliberately to misrepresent what I have written, I can only conclude that he followed a common rule with literary critics—viz., "Not to read a book till after you have made up your mind what you mean to say about it;" otherwise, he could not have described my book as "A Guide Book." He says, "*Guide Books* to the place, of course, abound, the most complete, perhaps, is 'The Medical Aspect of Bournemouth,' by Dr. Horace Dobell;" nor could he have complained that it "goes too much into medical details, and is somewhat disfigured by reports of over forty cases;" nor could he, in common fairness, have quoted the meterological tables as mine, and suppressed the clear statement made by me that they were Dr. Compton's, and not mine; nor could he have penned the extraordinary statement which I have copied from *The Guardian* newspaper.

The following extracts from my book will substantiate the foregoing observations :—"The fashionable way of writing a book about a health resort has long been to enter it in a competition with a number of other health resorts, in an elaborate and perplexing comparison of skilfully manipulated tables of temperature, rain-fall, barometric and hygrometric readings, sunshine, wind, mortality, etc., in which by some miraculous, mysterious, or 'fortuitous conflux of atoms,' the place in question always manages to turn up trumps upon the vital points. Sympathising alike with the famous words of Lord Beaconsfield, 'Confound your figures,' and with the old axiom that 'Comparisons are odious,' I have decided to *avoid* both the comparisons and the figures, so far as I possibly can, and to adopt a method of placing my opinions before my readers, which I hope may be as much more congenial to their tastes, as it certainly is to mine. Again, it has been usual in medical books about health resorts, to make them also local '*Guide Books*.' I intend, in this work, *to avoid*, as far as I can, *all but the medical aspects* of my subject. Fortunately, all the necessities of a 'Guide Book,' have been well supplied already in 'Hankinson's Descriptive Guide to Bournemouth, Christchurch, Wimborne, etc.' . . The way is thus cleared for me to proceed at once to treat of the *purely medical* aspects of my subject. In the first place, I must remark that neither Bournemouth, nor any other part of the United Kingdom, has a climate exactly like that of Africa, Australia, Egypt, the Andes, Minnesota, Iceland, Davos, the Rocky Mountains, or the Nubian Desert, either in summer or winter! From the expectations with which I have found the minds of some patients filled, when sent to Bournemouth, the above apparently trite remark is not so altogether unnecessary as it might at first appear to be."

With regard to the meteorological tables, which it must be observed are not once referred to in the body of my work, and are only placed in an appendix, I headed them with the following statement :—Dr. T. A. Compton, M.D., B.A., Fellow of the Royal Meteorological Society, has kindly submitted to me his accurate and elaborate records taken in the Bournemouth district during the eighteen years 1867 to 1884 inclusive. The results have never before been published, and *notwithstanding my desire* (stated in chapter 1) *to avoid figures*, as far as possible, I feel it would be wanting in respect for Dr. Compton's courtesy in placing the records before me, and for the great labour which he has bestowed in reducing them to a concise and presentable form, if I did not at least publish the following summary of some of the chief points contained in his reports, which more especially relate to the general statements contained in this book." How far Dr. Crespi's version of what I have said in my book about climate corresponds with the facts will be best shown by giving the following extract, in which I summarised all that I had written on the climate of Bournemouth. This summary has been accepted as accurate by those who know Bournemouth best, and it has been quoted in various places, among others in the *Holiday Number of the London Medical Record* (1887), in which the editor added, "a great variety of other medical opinions might be cited, but after Dr. Dobell's carefully considered words, this must surely be unnecessary."

"It is the combination of (*a*) moisture-laden sea-breezes coming in from the south; (*b*) diluted and partially dried as they are by condensation of moisture on the face of the cliffs, and by admixture with the upper, drier, and less saline atmospheric strata, as they rise to the tops of the cliffs; (*c*) the important chemical changes which take place when the watery vapour mixes with the terebinthenate emanations from the pines; (*d*) the immediate absorption of all relundant moisture by the soil; (*e*) the dryness of the soil with the rapid percolation of the absorbed moisure to a great depth from the surface, and the numerous subterranean conduits by which it finds its way to the sea; (*f*) abundance of sunshine from the wide expanse of sky, and the catching of clouds by rain-traps; (*g*) free circulation of fresh air in consequence of the houses being built upon an elevated plateau instead of under the cliffs or upon sea-level flats, and of the heathland character of the surrounding country; and (*h*) the protection afforded by the pine-woods—which give the climate of Bournemouth at once its softness, its freshness, its purity, and its antiseptic properties—a combination peculiarly difficult to obtain."

"It is not easy to conceive any other combination of conditions by which to obtain (*a*) *anti*septic properties without the objection of over dryness of other irritating qualities; (*b*) *a*septic properties without the objection of excessive cold; (*c*) a marine air without the objection of overcharge with saline ingredients; (*d*) a soft air without the objection of excessive moisture; (*e*) coast air without the objection of malaria, and without undue exposure to storms; (*f*) shelter without the objection of deficient atmospheric circulation; and (*g*) last, but not least, a combination of the brightness and grandeur of the sea, with the varied loveliness of the surrounding pine and rhododendron woods, heaths, lanes, and glades; and further afield—but still within an invalid's drive—the picturesque and soothing river scenery of the gravelly-bottomed, rapidly-flowing Avon and Stour, with their salmon fisheries; the wide-spread rural landscapes towards Canford and Wimborne; and the wonderful views of distant sea and sky from the moorlands and fir woods of Constitution Hill.—(pp. 34-35, second edition, 1886)."

It is quite clear that Dr. Crespi does not frequent the Churches at Bournemouth, or he could not have said "the churches seem far in excess of the requirements of the scanty population," the fact being that Sunday after Sunday, both in winter and summer, it is painful to see the visitors hurrying about from church to church, trying to find seats, and often at last obliged to go home without finding them.

I am entirely in accord with Dr. Crespi in his complaint that Bournemouth invalids and visitors want more amusements in bad weather; and if he reads the local papers, he must know that I have been "agitating" for some years to obtain a large "Central Rendezvous," between the pier and the pleasure gardens. My designs and the architect's drawings and plans are in the hands of the Commissioners, and I am informed that they will be carried out as soon as a charter of incorporation has been granted to the town.

Dr. Crespi calls the population "scanty," and sets it as from 20,000 to 25,000; whereas the latest and most careful computation (see Dr. Kinsey-Morgan's new book on "Bournemouth as a Health Resort") makes it 32,000; and he speaks of there being "sixty medical men in *active* practice," which is sheer nonsense! There is a host of invalided and retired doctors in the place, but there are not twenty-five doctors "in active practice" at the present time; and as I intend to retire before the end of the year, there will be a gap which no one in Bournemouth seems exactly qualified to fill. It must be remembered that in a health resort of this class, the number of invalids to population is out of all proportion to that in ordinary places.

In conclusion, I must state that *I was not* the "leading Bournemouth doctor," who, Dr. Crespi says, sat in the same carriage with him last year, and who he accuses of having knowingly told a deliberate falsehood about the climate of Bournemouth to an innocent "great Metropolitan luminary." Who that "leading Bournemouth doctor" was I do not know, so I must leave it to him to deal with Dr. Crespi's "charitable speeches" if he thinks it worth his while.

Yours truly,

HORACE DOBELL, M.D.

REPLY TO DR. DOBELL.

To the Editor of The Provincial Medical Journal.

Dear Sir,—A newspaper correspondence is the most unsatisfactory thing in the world, and never does one particle of good, and so while in replying to Dr. Horace Dobell's strictures on my Bournemouth paper, I depart from a long-standing rule of mine. I do not expect that he or I will be gainers, but will be the rather confirmed in our respective opinions.

No one can read that article carefully without seeing that I have attempted to be perfectly fair, and to touch upon every point of interest. While I speak most warmly of the climate and the place, I do, however, complain that the former is often misrepresented, and I find fault with Dr. Dobell, in all courtesy though. His work contains a vast amount of information, deeply interesting, often curious, almost always useful and accurate; but I take exception to it on two grounds: I complain of the medical details of cases so freely introduced, and which give the work in places an appearance of advertising, which Dr. Dobell could not but object to himself in any similar work treating of another health resort, and the climate is described in language that I consider exaggerated. Were the book placed in the hands of any Scotch or North Country practitioner, especially of one ignorant of meteorology, he would fancy that Bournemouth had a perfect climate. Page after page will bear this construction, and Bournemouth is represented as having a combination of climatic advantages not found in any other place named. Dr. Dobell gives whole chapters describing the drawbacks of the climate of Italy, of foreign travel, and much more, which certainly justify my strong remarks. On page 220 occurs the passage, "it was during the *one week* of very bad weather." That sentence conveys volumes. Only think of a place in our latitude that has but one very bad week in the whole year.

Dr. Dobell seems offended at my calling his the most complete guide book to Bournemouth. In spite of his disclaimer I shall continue to look upon it as such. It cannot, in spite of its title, be regarded as a strictly medical work, and it is bought and read by many people, who are not doctors, under the impression that it is a complete guide to the place.

Some parts of Dr. Horace Dobell's letter I cannot quite follow. He has some fault to find with me for not stating that the Meteorological Tables are drawn up by Dr. Compton. I do not deny their accuracy, and no one else does; have I said that Dr. Dobell drew them up?

I repeat that many people come to Bournemouth expecting to find a climate far warmer, calmer, and brighter than it really has. Much of this disappointment is to be traced to highly coloured accounts of the place and climate, accounts which a meteorologist would smile at, but which the public accept as true. I have known people come from Bath, Cardiff, Birmingham, and Berkshire, expecting to find the warmth of a Midland June at Bournemouth in November and December, and complaining bitterly when they found that they had been deceived.

Dr. Dobell accuses me of not having read his book. Let me turn the tables upon him. He is anxious that he should not be confounded with the "leading Bournemouth" practitioner whom I met last year; but earlier in my article I distinctly say that I have never seen Dr. Dobell.

To one or two other points I must refer, though they are of secondary importance; they, however, reflect gravely on my accuracy. He treats the statement that there are sixty-one practitioners as "sheer nonsense," and adds that there are "not twenty-five in actual practice." The current issue of the "Medical Directory" gives sixty-two names, one only being marked "retired," and there are five at Parkstone; in addition to these the Poole and Christchurch men live on the outskirts, and sometimes are in the place; and there are one or two other practitioners as near, who are correctly given under the heading of their own villages. He also complains that the population is 32,000, not 20,000 to 25,000. Now on both points. Three years ago the late Mr. Gamgee, of Birmingham, was again thinking of settling at Bournemouth, and asked me to make inquiries for him. I will not give names, for all the letters went in to Mr. Gamgee, but a surgeon of mark told me he knew forty-one doctors in practice, and the number was increasing fast; he laughed at the number of retired and invalided men being large. Other men said and wrote the same. As for the population, they represented that the figures generally given included Christchurch, Poole, and Parkstone. If Dr. Dobell will refer to the "Medical Directory" of this year he will find that the population of the Urban Sanitary District is given as 16,858. I thought that in adding from 4,000 to 8,000 I was being generous.

I have too high an opinion of Dr. Dobell's merits and ability to write an unkind word about him, but I fancy he will agree with me that Bournemouth is a truly wonderful place in more ways than one, not the least wonderful being that in addition to some *retired* men whose names do not appear in the "Directory," there are nearly fifty whose names do figure in it.

The "Medical Aspects of Bournemouth" is so well got up, and valuable, that I strongly advise my readers to get copies. They will enjoy reading it, and I am sure that while they will not like Dr. Dobell the less, they will agree that in my passing criticisms I have not been too hard on him, and have not misrepresented any passages of his book.

I remain, your truly,

Wimborne. ALFRED J. H. CRESPI.

PASTEURIAN STATISTICS.

To the Editor of The Provincial Medical Journal.

Sir,—At the inauguration of the Pasteur Institute, M. Grancher is represented to have said that the English Commission in the early part of 1887, after long and careful investigation for itself, came to the conclusion that "M. Pasteur had discovered a preventive method for hydrophobia, comparable to that of vaccination against small-pox." This is true, but that decision does not cover the claim heretofore made by M. Pasteur in reference to his cases in human beings. The decision of the Commission was said to have been arrived at by means of experiments conducted on the lower animals, but, as I have so frequently pointed out, no attempt was made to test by experiment the value of the treatment *after infection* had taken place.

I must confess that, the formidable array of figures, manipulated, as they are, with such apparent ingenuousness, would be overwhelmingly convincing if—and here this little word assumes its biggest proportions—they were founded on undoubted facts. It has been frequently explained that it is impossible to tell save in those cases when the symptoms of hydrophobia have supervened whether a person has been *inoculated* with virus or not. In this connection we find in an article in the *Field*, January 4th, 1889, a new and marvellous admission, which virtually concedes everything M. Pasteur's opponents can desire. We are now for the first time told that, when death occurs either during the treatment or within a fortnight of the completion of the inoculations, such deaths must be eliminated from the mortality table, because the patients—to quote the words of the writer—"must already have had the poison in their systems before they came under M. Pasteur's treatment." This is about the most audacious of all the audacious shifts which have been made from time to time in the face of adverse circumstances, by M. Pasteur or his partisans. It is too, nothing less than an insult to our understanding to ask us now to judge of the value of Pasteur's statistics by the aid of such an absurd process of elimination, especially so, when we recollect the absolute claim to success that has been, and still is being, advanced for the method at whatever period adopted before the advent of symptoms of hydrophobia. Further, if unfavourable data are to be thus eliminated because they prove that Pasteur's treatment is useless when once infection has taken place, of what value, may I ask, are the favourable data, the only certain point in regard to which is that infection has not taken place? M. Grancher's statement amounts to this, as we have so persistently held, if Pasteurism is of any value at all that it is merely as a prophylactic, and not a remedy. If, as I suspect, it is meant that Pasteurism is of value only in those cases in which the rabic virus remains for a sufficient length of time, localised at the injured part before being taken up into the general circulation, then I may ask what same persons would hesitate in his choice between excision and Pasteurism? But if Pasteurism is successful under such circumstances, how does M. Pasteur account for the death of a man more than two years after he had been submitted to the treatment, and for the many deaths that have occurred, notwithstanding the early recourse—in many cases within a week—to the treatment! Again, what becomes of the value of those oft-quoted, numerous, successful cases, in which a fortnight, three weeks, or a month, had elapsed between the injuries by supposed rabid animals, and the commencement of the treatment.

While Pasteur has persistently ignored the challenge to prove his position by experiments on the lower animals, he invariably marshals out his brilliant array of statistical figures, and insists upou the exclusive right to manœuvre them to a "pot-pouri" of his own composing. M. Pasteur seems to forget that statistics are like an impecunious but large-hearted Irishman—anybody's friend. That Pasteur's apparent success is due almost entirely to "scare" is sufficiently evident from the fact—quoting M. Grancher's figures—that the number of cases treated at the Pasteur Institute fell from 2,682 in 1886, to 1,386 in 1887; the average mortality from hydrophobia, it is said, being only 40 per annum in the whole of France. How could the death-rate to number inoculated be anything but low under such circumstances?

It was wise of M. Pasteur to point out "that the Institute would serve not only for inoculation against hydrophobia, but that numberless other researches and experiments as to the diseases produced by microbes would be carried on there." I venture to assert that when the "scare" passes away, it will be these researches alone which will save the Institute from ruin and disgrace.

VINCENT RICHARDS.

A DIAGNOSIS WANTED.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—A man, æt. forty-two years of age, blacksmith by trade, very strong looking, weighing about fifteen stone, and somewhat corpulent, has been ailing for the last seven years from what he describes in his own words as nervous exhaustion. Before then he never ailed anything; was very thin and spare in body, but since his illness began he has got to be very stout and fat. For the first two years of his illness he had extreme pain at the lower part of the back, over the sacral region; afterwards he suffered for about eighteen months from sickness, especially in the mornings. Neither of these trouble him now. At present his feeling is one of extreme weakness, with an aching pain in front of the thigh and a trembling feeling in his legs. He has noises in his head which are like a distant thrashing machine, sometimes worse than others, but seldom absent. Often in the mornings, between sleeping and waking, he feels as if he would go out of his mind; sees things before him, and says it is like being in the "blues." He has often told his wife when these feelings come over him that he is not at all surprised at people putting an end to themselves. He is fretful and irritable and does not like to see anyone.

Physical examination does not reveal any abnormality. He suffers slightly from cough in the winter time. Urine is usually loaded with urates; once it was found decidedly albuminous; it has often been tried and only a haziness produced. He only passes about forty ounces per day; when at his work, less. He perspires profusely when doing anything; often in bed he says his legs are cold and clammy. He suffers occasionally from slight œdema of the legs.

Yours truly, JUNIOR.

PYRETIC ACTION OF ANTIPYRINE.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—In a letter to your valuable Journal on the above subject in May, 1888, I pointed out that the antipyretic power of antipyrine and similar drugs was due to their action upon the elements of fibrin—an action which either prevented their union or made the fibrin of so unstable a form that the stasis of blood in inflammatory diseases was either entirely prevented or considerably modified. Confirmatory evidence of this view being correct, I have found in the result of treatment of the commonest disease of leeches after they have drawn blood. In a longer or shorter time from contraction of ingested material they become hard and corrugated. On treating these with a solution of antipyrine of the strength of fourteen grains to the pint they in three days regained their usual size, suppleness and activity, after discharging and vomiting shreds of fibrin and a quantity of hœmoglobin; three washings or cleansings were sufficient at intervals of eighteen hours.

I am, Sir, Yours truly,

April 21st, 1889. C. R. ILLINGWORTH, M.D.

BRONCHITIS TREATED BY FELLOWS' SYRUP OF HYPOPHOSPHITES.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

DEAR SIR,—I have recently been informed, by medical friends, of some very grave cases of bronchitis successfully treated by my preparation (Fellows' syrup of Hypophosphites), and, as I feel that many members of the profession are unaware of its value in this form of disease, I venture to ask you to test its virtue, if you have not already done so, in either acute or chronic bronchitis, however hopeless the cases may appear, as I feel convinced that the result will prove satisfactory.—Apologising for thus troubling you, I am, dear Sir, yours very truly, JAMES I. FELLOWS.

April 10th, 1889.

Bibliographical Record.

BOOKS, PAMPHLETS, ETC., RECEIVED.

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The Practice of Medical Men in Switzerland. pp. 72. By Cevester Brothers. Geneva.

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The Utility of Experiments with Drugs and Animals. By Edward Berdoe, L.R.C.P. London: Swan, Sonnenchein & Co.

Bournemouth as a Health Resort (*illustrated*). By A. Kinsey-Morgan, M,R.C.S. London: Simpkin, Marshall and Co.

Man and his Maladies, or the Way to Health: a popular hand-book of physiology and domestic medicine in accord with the advance of medical science. By A. E. Bridger, B.A., M.D. London: John Hogg.

Lectures on Pathological Anatomy. By Samuel Wilks, M.D., and the late Walter Moxon, M.D. Third edition, thoroughly revised by Samuel Wilks, M.D.

EXCHANGES, 1889.

AMERICAN:—

1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

BRITISH:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25 Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

DUTCH:—

35. Nederlansch Tijdschrift voor Geneeskunde.

FRENCH:—

36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
42. Annales de Gynæcologie et d'Obstetrique.

GERMAN:—

43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
48. Fortschritt der Medecin.
49. Chemiker Zeitung.

ITALIAN:—

50. Lo Sperimentale.
51. Rivista Internationali di Medicina.

PORTUGUESE:—

52. A Medicina Contemporanea.

RUSSIAN:—

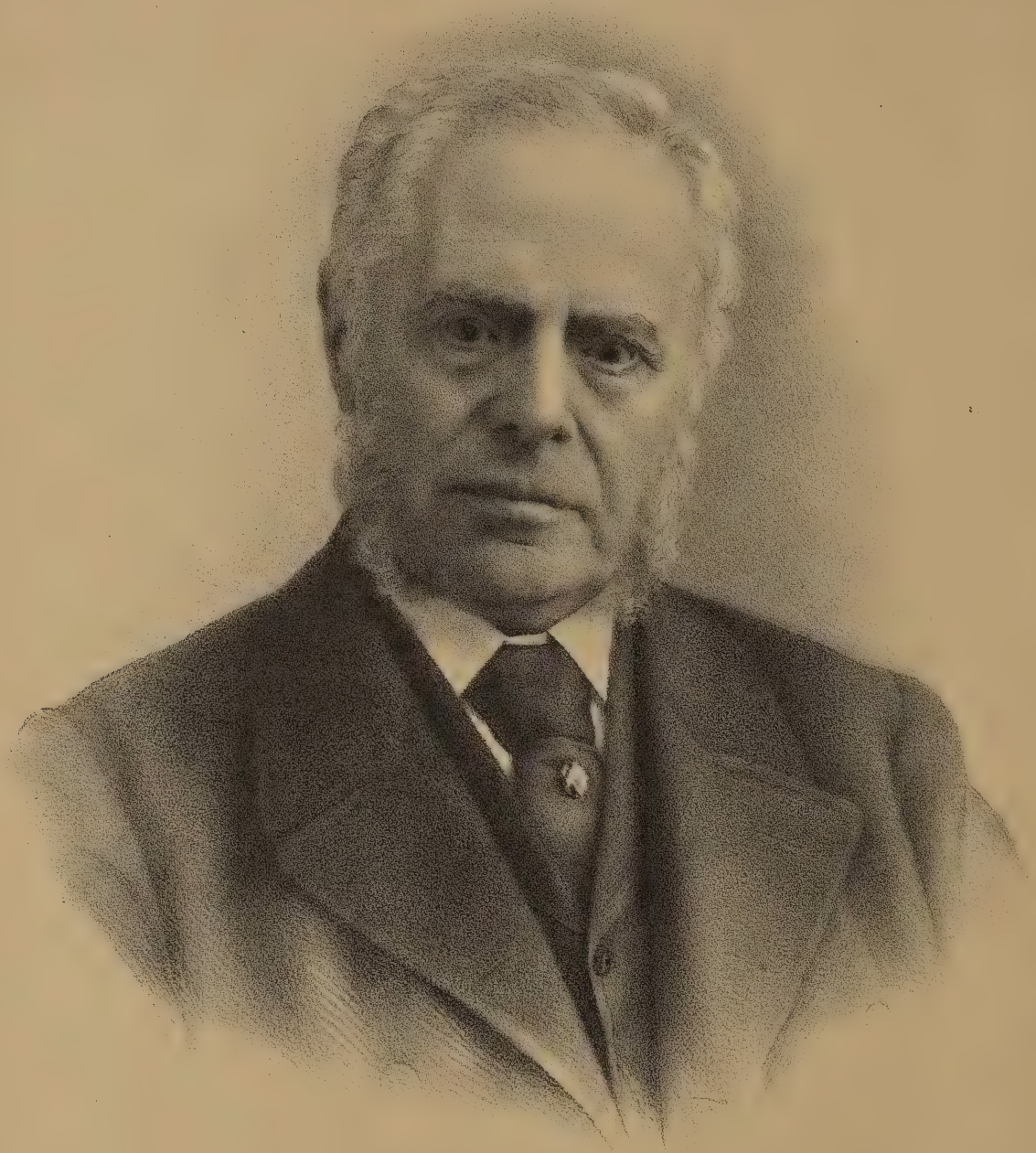
53. Vratch.

SPANISH:—

54. Rivista Clinica de Barcelona.

TURKEY:—

55. Revue Medico-Pharmaceutique Constantinople.



Yours very truly
M. Martin de Bartolome

THE

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VOL. VIII.] JUNE 1, 1889. [No. 90.

Our Portrait Gallery.

MARIANO MARTIN DE BARTOLOMÉ, M.D.

THE features of Dr. Martin de Bartolomé must be familiar to all who have attended meetings of the British Medical Association. He is one of the band who in times past, when the profession was disorganised, set themselves the task of building up an association which should gather within its folds all members of the profession. The early days of the British, or as it was then called, the Provincial Medical Association, were days of struggle. Its members were but a few thousand: its journal was weak, and financially unsuccessful. The forces against it were powerful, but Dr. Martin de Bartolomé has been spared to witness the powerful growth of the organisation, and he might truly say, *jam satis vixi.*

Many of his old companions in arms have joined the majority; fortunately, a few of his old friends are spared, as Waters, Strange, Wheelhouse, to rejoice with him in the great and growing success of the British Medical Association. We have now an amended constitution more in harmony with the temper of modern times. Representation on the Council is secured to the branches by popular vote, so that each member of the association is thus able to influence the Council. We have now a journal, which each year brings in a large profit, and we have now somewhat like 13,000 members; and in the future there is every promise that it will reach 15,000 or more. The husbandman sows a tree to benefit future generations. The seed sown by Sir Charles Hastings and others has blossomed into a goodly tree, under whose shade we now sit in peace and content; but whilst enjoying it we should not forget those who have planted it. We have published short memoirs of the leaders in the establishment of the British Medical Association—as Drs. Waters, Strange, Mr. Wheelhouse, Mr. Ernest Hart, etc.—and we have pleasure in giving a short memoir of one of their most esteemed *confreres.*

Mariano Martin de Bartolomé was born in Segovia, in Spain, in 1813, of an old Castilian Hidalgo family, and in consequence of his father being "Jefe Politico," or civil Governor of the province, was entered in the celebrated Artillery College of the Alcazar of Segovia when only eight years of age, and received his early education at that national institution. The destruction of the representative system of government, and the restoration of the despotism of Ferdinand the Seventh by the French intervention, drove the family out of Spain to seek a refuge in England.

In 1833 the future doctor matriculated; and in 1838 took the degree of M.D. in the University of Edinburgh, and was one of the twenty-one optimi of that year (out of ninety-eight graduates). During the last three years of his residence at the University he was confidential assistant in the laboratory and lecture room to the late Sir Robert Christison.

In 1840 Dr. Martin de Bartolomé was elected Physician to the Sheffield Public Dispensary.

In 1846 he was elected Physician to the Sheffield General Infirmary, and also Lecturer in Medicine at the Sheffield School of Medicine, both which appointments he still holds. In the same year he obtained letters of naturalisation as a British subject.

He has been President of the Sheffield School of Medicine for twenty-two years, and in 1864 the pupils of that, and previous sessions, presented him with a handsome piece of plate in recognition of his services. In 1874 he was President of the Yorkshire Branch of the British Medical Association, and in 1876 of the Association itself.

In 1888 the medical profession of Sheffield and the neighbourhood subscribed liberally to an oil portrait of the doctor by Bernard Cammell, Esq., and with characteristic good taste presented it to the Sheffield School of Medicine—the scene of his labours—and it now hangs in the library of the new building.

Dr. Martin de Bartolomé has been married twice, and has eight children.

Original Communications.

GYNÆCOLOGICAL SPECIALISM AND GENERAL PRACTICE.[1]

By THOMAS M. DOLAN, M.D.,
VICE-PRESIDENT BRITISH GYNÆCOLOGICAL SOCIETY.

IT would be singular indeed if the medical profession escaped from the action of what I might term the general forces, which have of late years so acted upon manufactures and the arts, as to bring about in these a degree of specialism unknown, and even undreamt of, by our ancestors. It has not escaped, and my object to-night is to attempt to prove that those who are engaged in general practice have no reason to complain of the growth of gynæcological specialism, which has followed on the line of progress and of evolution, for general practitioner and specialist have still their *rôles*, and are mutually interested in the development of the study of the diseases of women; nay, more, I would assert that by linking themselves closer with such a society as the British Gynæcological, and by digesting the experiences which the leaders in gynæcological practice so readily place at their disposal, general practitioners can thereby better qualify themselves for that position which, if I read rightly the signs of the times, they are likely to hold in the future. It is nothing new when I say that the prospect of the future appears to hold out almost a certainty, that the differentiation in the ranks of the profession will be of such a nature that we shall have two orders.—First, a family physician or medical attendant, who will have the general care of the public; and, secondly, that we shall have behind them an order who devote themselves exclusively to the study of a single part or parts of the body. It is a growing opinion that the specialist should for some years be a general practitioner, and that then by predilection for some individual organ or part of the body, he should take up that as his speciality. It is doubtless true that we have a number of specialists who have not been in general practice, but they have served a similar apprenticeship in connection with general hospitals, and, *mutato nomine*, the end is similarly achieved, experience being acquired which determines the value of the specialist in our eyes.

The signs of the times appear to me to point to this, and I cannot help thinking that such a change will be conducive to the best interests of our patients, for after all, and above all, that is the chief point. The field of medicine, and especially of gynæcological medicine, is so vast that it is only permitted to the general practitioner to have sufficient knowledge to treat the ordinary diseases of womankind; at the same time he should be able to accurately diagnose those conditions, for the relief of which he should seek the aid of those who have taken up the speciality, and what those conditions are we shall subsequently see in the outline survey I shall give. The field of general practice, so far as the diseases of women are concerned, leaves to us an enormous scope of work almost sufficient to satisfy any ordinary ambition; and if we are sufficiently qualified to faithfully, judiciously, and scientifically carry out the treatment of the general ailments of women with minor surgery, we may congratulate ourselves—even though we cannot lay claim to major operative honours—that we are in some measure contributing to the advance of gynæcology, and to the happiness of that sex to which our study is devoted. The diseases of women and children have from time immemorial been associated with general practice. In fact there would be nothing worthy of the name if we took away these classes. By the practice of obstetrics we in the first place obtain a firm hold in family practice, and the subsequent attendance follows almost as a matter of course.

I shall briefly allude to some groups of symptoms about which we are commonly consulted, and submit some reflections upon them from the general practitioner's point of view. Disorders of menstruation take first place. Here in connection with this most important function we have almost the commencement of our gynæcological work—in advising and laying down, under normal conditions, the hygiene of the period. Apart, however, from normal menstruation, a large number of conditions or symptoms, as amenorrhœa, dysmenorrhœa, menorrhagia, metrorrhagia, fall under our notice, calling for the highest diagnostic faculty and experience. The general practitioner who aims at really securing the confidence of his patients should be well grounded in the causes which lead to any of these states, and here he will find that even with such a symptom as amenorrhœa he will have a wide scope for philosophising. He will have to enlarge his mental vision, not looking at it as simply demanding the exhibition of that great panacea, "iron," or the use of that implement of destruction, the sound, but as calling for a philosophical enquiry which will embrace all the elements of the gynæcological A B C—for if he in the one case gives iron for a case of amenorrhœa, depending on absence of the ovaries and uterus, he will cover himself with confusion; if he uses the sound when amenorrhœa depends on pregnancy he will be guilty of criminal abortion.

This mistake has been made not only by general practitioners, but by physicians and surgeons of repute, and here I would remind you of the words of a song which was written for the lover and not for the gynæcologist, but which are applicable to both.

I knew a maiden fair to see,
Take care, take care;
She can both false and friendly be,
Beware, beware,
She is fooling thee.

The air of innocence assumed by some patients who come to us with amenorrhœa; the social surroundings of the patient may put us off our guard, but we should ever remember the possibility of pregnancy.

The other possibilities opened out by amenorrhæa are very wide. From simple anæmia as a cause, we touch conditions which will require operation, such as when we have associated with this state, vaginal or uterine atresia, with which we may have reflux of blood into the fallopian tubes, with even rupture and escape of blood into the peritoneum. This condition is supposed to be rare, but none the less is it our duty to be mindful of these conditions and make our diagnostic range so comprehensive as never to omit a consideration of the possible. Intra-peritoneal hæmorrhage in the virgin I believe to be more common than we imagine, and to be the unsuspected cause of many deaths. The local morbid conditions associated with amenorrhœa, or causing it, such as ovarian tumours, peritonitis, parametritis, ovaritis, apart from other causes associated with anæmia, should all pass under our mental ken. Thus alone can errors of diagnosis be avoided.

[1] A paper read at the British Gynæcological Society, May 22nd, 1889.

Here I would observe in reference to the therapeutic treatment of one single symptom, associated with amenorrhœa, that I think the value of iron is over-estimated, and that the routine pill of doses of sulphate of iron has little or no value. Iron represents strength, and its routine prescription appears to me to depend very much on an association of ideas rather than on its practical efficacy. Apart from the hygiene proper to anæmic conditions I set a very much higher value on arsenic and nux vomica. Next in frequency to amenorrhœa, dysmenorrhœa engages our attention, a condition taxing our patience and knowledge, depending, too, on many and varied cases, for the relief of which some minor manipulations are required. From this to menorrhagia and metrorrhagia is but a step, as well as all the other hæmorrhages which may take place upon the sources of which we should be fully informed, and upon which we shall have to make a differential diagnosis. Here I would emphasize the value of an observation of Dr. Edis, "that where hæmorrhage from the uterus persists unnaturally, and where the ordinary medicinal agents fail in affording relief, and where there is no evidence of any condition external to the uterus, the cervix should be dilated, and the uterus explored."

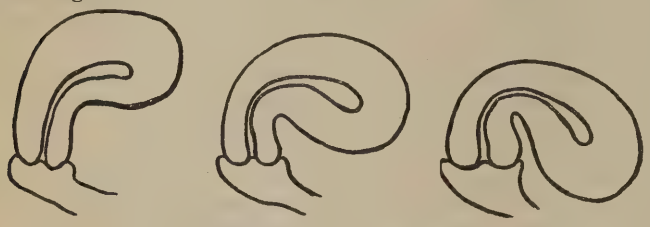
The methodical examination of the group of diseases I have thus described, conducted on sound principles, observations being duly recorded and deductions drawn therefrom in accordance with the strict rules of logic, will conduct the practitioner to a sound verdict, and enable him to differentiate between those conditions he can positively relieve or cure, and those which are abstruse and beyond his skill.

Next, if not in importance, certainly in point of number, we have to deal with another group—viz., uterine displacements—about which so much has been written, and on the proper treatment of which there is the widest disagreement. The number of pessaries figured in our surgical catalogues are not only an *opprobrium* to general medicine, but to the art we cultivate. It has always been a puzzle to me why men allow their names to be attached to modifications of instruments which in themselves do not possess the slightest utility, and none for the original purpose for which they are designed. Do we not attach an undue importance to the various deviations to which the uterus is necessarily liable, owing not only to its anatomical position, but to individual peculiarities? I may be here giving you old wine in a new bottle. Boulard, in his report on uterine deviations, 1854, states that in the fœtus there normally exists uterine flexion. In 107 cases he found 98 antiflexions. Aran found antiflexion in half the young people he examined, whilst Schultze, our latest writer, asserts that antiflexion is the normal condition of the uterus. The symptoms which are said to be associated with the various versions and flexions are so numerous that they really embrace all the common diseases of life, and if they depended on these displacements there are but few women who would be able to do without a pessary. The anomalous pains and aches to which women are liable can be legitimately traced to other causes than either version or flexion—viz., the hyperplasic or diseased states of the uterus and adnexa usually found in long-standing cases. I can understand the mechanical principle on which we act when we attempt to support a uterus which has a tendency to prolapse, or which is already prolapsed; but when we apply a pessary, which simply hangs loosely in the vagina after a few hours, in some of the conditions laid down in text books, we are, I contend, proceeding on unscientific lines, for I deny that there is an analogy between the pessary and the splint, save in prolapse, and I fail to see how a Hodge pessary can act as a lever. The subject of the use and abuse of pessaries is a very large one. Their condemnation, so far as their routine use is concerned, has been pronounced by some of the ablest gynæcologists of England and America; but, judging by the number of instruments shown to me by representatives of our surgical instrument makers, they must still be largely employed, for here the general principle comes true of supply being commensurate with demand. Schultze tells us, in his very philosophical and exhaustive work, "that the treatment of displacement of the uterus forms part of the daily routine of the general practitioner." This I believe to be true; but so far as my experience goes, with rare exceptions, and excluding prolapse, we can very largely dispense with the use of pessaries. This conclusion I have arrived at from two classes of practice comprising women in two distinct classes of society.

First. I have been struck by the number of women who suffer from aggravated forms of version and flexion admitted under my care at the Halifax Union during the last twenty years, and by the almost total absence of symptoms of distress on their part, and though I have a liberal supply of surgical appliances placed at my disposal, yet my pessary bill has been almost *nil* for this class.

Second. I have found the same condition in women of the better class whom I have had to examine for other causes, so that I have been forced by my own individual experience to the conclusions above alluded to. The old writers—Aran, Becquerel, Scanzoni, Nelaton—held this view, expressed in the following words, quoted by Nelaton from Scanzoni: "Flexions of the uterus have no importance, and are not followed by serious danger unless *they are complicated by some alteration in the texture of these organs.*" It is necessary to reposit the uterus, owing to well-defined malposition, but my experience is that a pessary will not *per se* keep it *in situ* after it is reposited, and that when the conditions are altered, as by posture, straining, micturition, defæcation, your pessary moves out of place. Rest and position will do what the pessary cannot do. If we look at the drawings in text books, and study them by the laws of mechanics, especially of uterine statics, it should be clear that the means employed are quite inadequate for severe retroflexion or antiflexion cases unless you have some descent. Shultze, though he advocates the figure-of-8 pessary, yet is almost as iconoclastic as I am. He says (p. 260): "There is still a very widespread misconception that the uterus can be brought out of an anomalous position by the pessary. This action was specially claimed for the Hodge pessary when it was brought out. No pessary in existence can do this; the normal position must first be restored bimanually; a pessary *may* afterwards maintain it." In prolapse it is different. Here we have a falling body which requires propping up. Examining the mechanism of this state we can understand that if we have a contractile vagina capable of sustaining between its walls any solid substance, rings, wedge, ball, that when the uterus rests on it, and conditions being equable—that is to say, the causes at work in promoting the prolapse being remedied—the heavy body will rest, and being supported, will cease its descent. But here we have to have one condition—vaginal walls sufficiently strong to retain the support. If they be flaccid or atonic, the support will give, and the uterus will still continue its descent until we have complete *procidentia*. All

this is elementary, but even yet not sufficiently appreciated. The means should be proportioned to the end. But even with prolapse this is not the case, for a heavy body like the uterus is but too frequently placed on a simple ring which cannot find support on the damaged columns, and the fancied security the patient has received is all chimerical; she is living in a fool's paradise, from which she is rudely wakened when she finds ring and uterus protruding from her vagina.



THREE CASES OF ANTIFLEXION.

TWO CASES OF EXTREME ANTIFLEXION.

THREE CASES OF RETROFLEXION.

Whether general practitioners, as a rule, possess a healthy scepticism as to the value of pessaries, I am not in a position to affirm, though I know from intercourse with many intelligent and experienced practitioners, that my views are not by any means singular. The paper contributed by Dr. Egerton Fitzgerald, and published in your *Transactions*, vol. iii., p. 37, gives countenance to my belief. Perhaps we may here have an opportunity of hearing some other opinions on the subject. What I consider wanting in our text-books are scientific or mathematical demonstrations on the dynamics of uterine displacements, in which will be shown the forces at work, the axes, the lines of resistance, the lines of replacement (the principle of the fulcrum and the lever are supposed to be connected with the pessary), definite instructions on the use of pessaries, on the best form, and plain reasons for using individual forms in each case, with rules for the guidance of patients. It does not help the student to see in a text-book the figures of a number of pessaries from which to select; this, I submit, only makes confusion worse confounded. I must here acknowledge that we have one text-book which fulfils many of the conditions laid down. I allude to Dr. Bantock's book on the "Use and Abuse of Pessaries;" but I venture to offer this criticism, that Dr. Bantock does not make sufficiently clear the dynamics of the pessary. I fully recognise the great aid he gives to the student by exposing in his illustrations and in his drawings the untenable position held by many teachers as to the action of the pessary. The specimen in my hand I removed a few days ago with great difficulty from a woman, who had worn it for a year. Her condition was most miserable when she came to consult me, and I could give case after case in which I had to remove not only box-wood ovals, but Zwanke's, Hodge's, which had been introduced and left to their fate in the dark cavity of the vagina. I do not forget that Shultze advises that his pessary should remain *in situ* for a year (p. 239)—a practice open to question. When we have placed one of these pessaries in the vagina, our responsibility does not end—this truth cannot be too strongly impressed on young practitioners. What is true of the simple pessary, is doubly true of the stem pessary. *Primum non nocere* is a sound surgical principle, not to be forgotten in gynæcology. The stem pessary cannot be used until we have straightened out the uterus—a process difficult when the whole uterus is involved. The stem can only fit as far as the flexion in such cases, and it must either lie partly in the vagina, or if pushed home, pierce the uterus. This point is not sufficiently emphasized.

Looking at the subject by the light of the papers read at this society, and the opinions of gynæcologists, I believe that in the future we shall derive more benefit from operative measures than we have done, and that in this direction we ought to move, especially as we may hope to have a more rational pathology, by the light thrown on the diseases of the uterine adnexa. Shortening the round ligaments, removing diseased ligaments and tubes, perineorraphy, and suture of the fundus, are philosophic conceptions, and indicate somewhat the lines of progress.

The examination to which we have to subject our patients, in order to duly estimate whether antiversion or retroversion, antiflexion or retroflexion, exist, often reveals to us conditions which would not otherwise be discoverable, and we are able to diagnose the existence of some of the various forms of tumour which are so plentifully brought before the notice of this society by our operating gynæcologists. In addition, we learn that behind the displacements there are other changes, as ovarian congestion, chronic metritis, hyperplastic states, cervicitis, adhesions, inflamed ovaries, the rectification of which is certainly as important as the change of position, and to some of which we can render effectual assistance by measures appropriate, but simple.

I have alluded to my experience at the Union Infirmary, and you will pardon me if I harp again upon an old string. In various papers, and notably in one published in a little book called "Hospital Management" (Keegan, Paul & Co.) I have pointed out the value of the clinical material we meet with in our union infirmaries, and I have formulated a scheme which, if adopted, would materially improve the status of these institutions. For teaching purposes our wards are admirably adapted, for students would see there the common diseases of every-day life, as well as rare and interesting cases. What is very much wanted is a closer relationship between the union infirmary and the general hospital; then the medical *personnel* would be brought up in point of number, and greater results would follow. I have 125 female beds in usual occupation; these include eight for confinements and eight for venereal cases. The geographical distribution of disease is a matter of interest,

as well as the incidence of disease amongst certain classes. Contributions to this common fund of knowledge might usefully come from medical officers of union infirmaries. Take, for instance, cancer, which is now so much, as the French say, "in the air." Such cases gravitate to the union infirmary. During the last twenty years I have only had six cases of uterine cancer, and four of cancer of the breast, in this infirmary. I have had a number of cases sent in with cervical ulceration, villous growths, syphilitic ulcers of cervix, which were supposed to be cancerous, but the recovery of the patients gave the negative to this. Again, how far are fibroids, ovarian tumours, prevalent amongst the working class in our northern manufacturing towns? I can give a partial answer for one town. It is remarkable that during twenty years I have not had a single case admitted, though I have been on the look-out for them. What influence has gonorrhœa on the production of tubal diseases? This is another question of the gravest importance. Medical officers of union infirmaries might be able to tell us something on this point; but, unfortunately, they can only partially help us, as they are not allowed to make *post-mortem* examinations.

The commonest affections in my infirmary have been menorrhagia, metrorrhagia, chronic endometritis, what is known as pelvic cellulitis (a name which embraces all the diseases of the uterine adnexa), various common affections of the vagina and vulvæ, which I need not enumerate. I have had only two cases of vesico-vaginal fistula; ruptured perineum I have rarely met with. In private practice I have been, I must consider, exceedingly fortunate in having not an almost absolute escape from this condition, but very few cases. One case I had many years ago. I was delivering Mrs. H—— with the long forceps. She was lying on an old-fashioned trestle-bed, and suddenly the bed gave way, and there was an indescribable scene. The woman fortunately escaped with a completely ruptured perineum, and I was taught a lesson on again applying the forceps to first make sure of the stability of the bed. She made an excellent recovery, the perineum being brought together by the old-fashioned quilled suture, and I attended the woman twice afterwards. Immediate suture secures excellent results, even though we have the lochia saturating the wound. Speaking of laceration, I may here allude to the subject of cervical laceration, upon which an admirable paper was read by one of your secretaries, Dr. R. T. Smith, and published in vol. i., p. 294, of your *Transactions*. I have attended 3,435 consecutive labours, attending the same women three, four, five, and even eleven times; so that I have had a fair opportunity of noticing the condition of the cervix. I have clearly made out its shape, and I can only say that it has been as varied as the patients' noses. I have met with the puffed and fringed cervix, the stellate cervix, the patulous and elongated cervix; but I have not found any tears of the severe nature I find described in American gynæcological works, requiring what is now best known as Emmett's operation. The slight lacerations heal, and I believe, as a rule, the cervix bears the strain imposed upon it just as well as the body of the uterus. I have been able to examine a number of uteri with complete *procidentia*, and I have been struck by the symmetrical shape of the os. I have now a patient under my care who has had five children. Through *mauvaise honte* she deferred seeking advice until she found the uterus protruding. In her case there is a circular, perfect os, though surrounding it there is a ring of denuded epithelium. She tried a ring, on her own initiative, but it was expelled each time she coughed. She now wears with great relief one of Dr. Barnes' cup and stem pessaries.

We are frequently consulted on the subject of sterility. Unfortunately, as a rule, our advice is only sought after some years of married life have passed, and I believe that this is the cause of our being able to do so little for the relief of sterile women. Bad habits have been indulged in for years; a desire for children leads to excess; mischief is done in the early days of married life which cannot be undone. I have notes of thirty-eight women, who through sterility have sought the best advice, but they have remained sterile. They all sought advice after years of married life.

The unsatisfactory state of the treatment of sterility I consider very much arises from what I have alluded to —viz., the deferring of advice to too late a period. "Hope springs eternal in the human breast," and women keep on hoping for conception, though they are suffering from disorders of menstruation, vaginal discharges, and much graver impediments to conception. But sterility is only a symptom. There is no universal formula or panacea which we can apply to each case. Slitting up the os or dilatation may in individual cases do good, but its general application is illogical. Each case has to be treated on its merits. Of course, if we use the metrotome for every case of sterility, we shall be certain to have some successes. We must not forget, too, that the husband frequently requires as much treatment as the wife.

We have entered on a new phase, however, and it is not now-a-days so much a question how to make sterile women fertile, as to make fertile women sterile. The fashionable vice of to-day is the prevention of conception through dread of the pains of labour, dislike to children, etc. This is not the place to discuss the subject, save in its relation to disease—does the system injure the woman? I do not wish to generalise from solitary facts, but undoubtedly, in a number of cases in my own practice the system has been attended by symptoms of uterine disturbance—that is to say, in cases where the semen has not been received within the natural *vas*, where Condom and retraction are the methods employed.

(1) In five cases there has been well-marked uterine irritability, with general *malaise* and cardiac disturbance.

(2) Uterine congestion, with vaginitis, prevailed in three cases, whilst in two I found ovarian tenderness. One case I give in detail: An old patient of mine, who had had four children, during an absence from home consulted a physician in the metropolis. She had mitral disease, but mitral disease can hardly be considered an impediment to having children. She recovered from her confinements very well. This physician told her that if she had another child she would die, and instructed her how to prevent conception, suggesting the worst of the methods—retraction. Life is valuable. The lady, who was of strong religious feeling, felt she was committing sin, but the husband consenting, they carried out instructions. For five years the practice was indulged in. There was such an aggravation of her condition that I was continually in attendance. After five years, through inattention to the instructions, she became pregnant. There were tears and alarm, and then I heard the history. Abortion was suggested by them as the only alternative to save her life. I at once put my foot down on the idea, and said that there was no necessity, as she ought to go on full time. My patient had faith in the physician who advised retraction, and murmured. So I said, "We shall see an obstetrician of repute in town,

and you can then have an independent opinion." I saw Dr. William Playfair with her. He heard the story, and said, "Go on till full time." She did so. I delivered her early, with the long forceps, of a fine girl, and she had not a bad symptom. The mitral disease still exists, but she has been since a happy, bright, contented mother, with a minimum of illness. I mentioned abortion as a suggestion. It is an easy gradation from preventive checks to abortion production, and few will question the ill effects of abortion on the uterine organs. I very much fear that we may now apply the satire levelled by Juvenal against the women of his time:—

"Sed jacet aurato vix ulla puerpera lecto,
Tantum artes hujus tantum medicamina possunt,
Quæ steriles facit, atque homines in ventre necandos conducit."
Juvenal, Lib. ii., Sat. 6.

Ovid was sufficiently educated to recognise the danger of criminal abortion from two aspects—the moral side and the health side—as the following lines prove:

"Quæ prima instituit teneros convellere fœtus,
Malitiâ fuerat digna perire suâ.
Hoc neque in Armeniis tigres fecere latebris,
Perdere nec fœtus ausa leona suos.
At teneræ faciunt, sed non impuné puellæ
Sæpè, suos utero quæ necat, ipsa perit." *Ovid*, 14 *Eleg.* Lib. ii.

Ovid has left us an excellent motto: "*Principiis obsta, sero medicina paratur.*" If we would remedy this evil of modern life, it must be by the application of this motto. If we can prevent this practice, I consider it is our duty to do so, and join in the condemnation against it pronounced even by pagan poets.

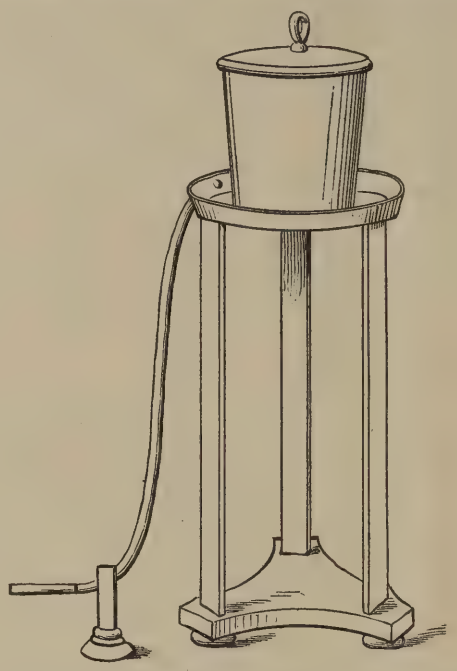
This perversion of natural instinct may be the outcome of civilisation, but it is only one of the many forms of perversion we meet with. The neurotic who wants a speculum passing daily may be familiar to many of you. She would require a paper to herself to fully describe her, for the sexual psychopathies are only symptoms of varied pathological conditions.

Preventive medicine is assuming a very great importance, as regards the other specialities, the eye, orthopædics, and, perhaps, in time, it may be possible for the general practitioner to apply his knowledge to the prevention of uterine diseases. This, of course, will require some education on the part of the public before they will bring to us their daughters. As a rule, menstruation is disregarded, and until some grave symptoms come on, as chlorosis, or excessive menstruation, we are rarely consulted. After marriage, when pregnancy takes place, all is left to chance, and the hygiene of the pregnant state is too little attended to. A very excellent chapter might be written on this subject.

I would recall to your mind the words uttered by our first president, the lamented Meadows, who died all too early, before the bantling he had helped in forming had commenced to walk. "I am," he said, "a firm believer in the use of drugs. To me practice would be shorn of its greatest attraction if I did not feel confidence in the things I prescribe." He asked for some experiences from general practitioners on the subject of the use of drugs—what they used, and why they used certain medicines. We have not had much information on the therapeutical side, so that a few words may bring out other observers to confirm or disprove my experience.

In the foremost place in uterine therapeutics I would place the use of water, hot or cold, plentifully administered by means of a proper *douche*, such as the one now in fashion. The proper introduction of the tube is most important, and it should be inserted to a good length, so that the water may be thrown on the os and surrounding parts. The ordinary enema cannot do this so well, owing to apposition of the vaginal walls and the intermittance and weakness of the jets.

The hydrostatic douche in modern use is not by any means a new invention. The accompanying drawing is



taken from Alibert's *Nouveaux Elements de Therapeutique*, vol. ii., p. 538, published in 1814. It was employed for the same purposes we now employ it, and even so far back as 1814 Alibert advises the practitioner to use, in addition to water, "various antiseptic substances, as wine and quinquinine," by means of this apparatus.

Apart altogether from purposes of cleanliness, we cannot too strongly impress on women the great importance of washing out the vagina. We can employ hot and cold water as a uterine sedative, for the relief of various inflammatory affections of the uterus proper, the vagina, and vulva. There are a large number of minor ailments, which cause considerable amount of pain and trouble, and which are absolutely dissipated by means of free douching. Exudations or hyperplasic states appear literally to melt down under the continued use of the hot douche. The cold douche is particularly serviceable in relaxed states, in women who have large flabby uteri and constant discharges resulting from atony. The douche will not dispel a fibroid tumour, cure prolapse, cancer, etc., but it will, in one or other form, be found beneficial and grateful to the patient by removing or washing away acrid discharges. The general term "leucorrhœa" is not only a very imperfect, but a harmful expression, leading too frequently to neglect of examination of the local conditions which underlie it, and which cause the discharges embraced under this name. Women have acquired a familiarity with the term "whites;" believing it to be a very simple symptom, they neglect seeking advice. The subject of intra-uterine injections is a very important one, and we shall frequently have to decide as to their advisability. In certain

states of the endometrium we can do no good unless we clean out the uterine cavity, and previous to this we should first dilate, and as we have now so many excellent dilators at our service this operation, with ordinary care, may be performed without risk. It is in the highest degree unwise to inject an undilated uterus. The cervical portion of the uterus is frequenly involved, and we have as a consequence a very common complaint, chronic uterine catarrh. Here the remedy I have most faith in is the tincture of iodine—an old remedy, dating back to 1830—combined with free washing and astringent applications, subsequently applied by means of the uterine douche. When stronger applications are necessary I resort to the tinct. ferri muriatis, first dilating the os, and then carefully injecting with a small syringe. Then I pack the parts with fine cotton-wool, allowing rest. The use of the nitrate of silver I have no experience of, as I have found the above satisfactory. Many other inflammatory states of the os are met with, which we have to contest by rest, sedatives, local applications—as leeches and scarification.

I regret to say we have very few uterine specifics, though we have a number of medicines which are indispensable to us to relieve symptoms. We have ergot, quinine, and strychnine, acting in various ways on the uterus. Apart from obstetrics, ergot finds a wide use in hæmorrhage depending purely on want of contractility, in cases of subinvolution. I have never found it to act as an emmenagogue; quinine and strychnine have the same power, though in a less degree. I know of no specific emmenagogue, not even permanganate of potash. Aloes will bring on the menses, but so in many cases will any purgative, when by relief of constipation, by this process of blood-letting, we have relieved the pelvic vessels; but this action has no relation to specificity. Women, through bad habits and feminine modesty, are very liable to constipation, and this is the case very largely with our operatives, so that purging is a very necessary commencement of all treatment. An overloaded rectum, and the straining induced thereby, are very largely responsible for minor uterine troubles. In the first rank I would place the ordinary sulphate of magnesia, prescribed in some form, by ourselves. I do not tell my patients to purchase Freidrichshall, Hunyadi Janos, or Æsculap. In the next place I would place cascara sagrada, as it has the valuable property of not constipating. Next in value are glycerine suppositories, when the bowels have been first well freed.

Without sedatives we could not well get on. We have morphia; then next to it in value conium, in the shape of the succus. It acts like magic in backache, and I place great reliance on it.

The bromides are essential in the irritability produced by disturbed uterine function. The older remedies, as castor, musk, valerian, and camphor, have no value. We have a wide choice in caustics; and for astringent remedies we can depend on oak, elm, bark, alum, sulphate of zinc, etc. Deodorants—misnamed disinfectants—are frequently necessary, and we have a plentiful choice.

I have tried a number of new remedies, as gossypium, used by negroes in South America, a so-called emmenogogue, but I cannot speak favourably of its action. Amongst the local agents the only one I have found of any value is the *Hamamelis*, or witch hazel. It is an agreeable and soothing astringent. Viburnum, hydrastis, and many other new remedies have been tried by me, but they have disappointed me. Vaginal tampons, or pads, are admirable contrivances, and may be relied upon in tender states of the cervix, for the application of dressings, etc. Of course we have to prescribe other remedies, such as tonics and the mineral acids, but the indications for their use are simply derived from general considerations, and bear no relation to special gynæcological practice.

Amongst the new remedies received, I must not forget to mention the bougies introduced by Messrs. Christie & Co. for application to the interior of the uterus, a sample of which I show. The construction is simple, and as the substance can be altered at will, I believe this will prove a useful little instrument. The general sketch I have given is sufficient to show how the general practitioner stands in relation to gynæcological specialism, and what a wide field he has, even without touching upon ovarian tumours, and the various diseases of the uterus and its appendages which call for absolute operative interference, for a class of cases which medicine cannot benefit, and for which the knife is the only remedy. It is essential that he should be able to diagnose these conditions.

During the last few years we have had to learn a new terminology—I allude to practitioners who have been in practice for some time—and I think it speaks well for the general state of knowledge of the general practitioner, that in his work on ectopic pregnancy and pelvic hæmatocele, Mr. Lawson Tait is able to place on record so many cases which had been diagnosed before operation by the general practitioners in attendance. What is wanted by the general practitioner is guidance and instruction on the diagnosis of obscure conditions. He is willing to learn, to keep pace with the times; and it is all important that he should familiarize himself with the symptoms of myoma, salpingitis, ectopic pregnancy, and the rest, because, in many cases, time is of the greatest moment, and an early diagnosis means a difference between life and death. Early operation is, or should be, a gynæcological maxim. From the many admirable text-books we possess on the diseases of women, he will learn a great deal, but I venture to think he will learn a great deal more by reading the admirable transactions published by this society, or by attending its meetings, for thus he will be kept up to the latest advances, not only in surgery, but in gynæcological pathology, diagnosis, and treatment.

Treating the subject from the general practitioner's side, I cannot conclude without a few words on our relation to the specialist. There cannot be anything antagonistic between us, even though I hold the view that as general practitioners we ought to be able to cope with the ordinary run of practice, because specialists themselves have been so liberal, instructing us by means of papers and text-books, opening our eyes, and making their special knowledge the common heritage of medicine. But our work must stop and have its limits; we must in cases of doubt, in cases abstruse, in cases requiring special operative measures, invite the aid of the specialist, aid which is always readily given, and aid which we should all the more readily invoke because you are not our competitors, as you have given us the wider field. It has been my pleasure and privilege for some years to have had many patients under various specialists, and I can say without flattery, that these consultations have been advantageous both to the patients and myself, and that I have found a high code of honour prevailing.

My experience is not singular. There is an antagonism of course between the general practitioner and specialists of a certain class. The specialist who finds fault with treatment when there is no ground for it, the specialist who makes an alteration in a mixture which simply consists in changing the colour, and who resorts to other artifices of the same kind, is naturally not popular. We know these men and their reputations, and we avoid them, but they are the exceptions. The specialist who carries on his practice on the pure lines of honour and candour, who is honest to his patient and to ourselves, is fully appreciated, and we have no antagonism to him. I have perfect confidence in those specialists to whom I send my patients, and I can always make a large selection. If the specialist deem it necessary that the patient should remain under his care for a certain time, giving his reasons, I consider that he is perfectly entitled to retain the patient, otherwise his hands would be tied, and he would simply be the slave of the practitioner—the patient would not receive what is her right—viz., the fullest benefit from the specialist's skill. As regards those patients who consult specialists without telling their family medical attendants of their intentions, the specialists are not bound by any code to inform the practitioner or to hand back the case, though many specialists do go beyond the rule—writing to the previous medical attendant their views of the case. The general practitioner does not himself object to take patients who have been previously attended by another medical man. He will not, it is true, take a patient when another medical man is in attendance, or when he is summoned in case of emergency: but when the patient desires to change, the code allows the practitioner full freedom to treat the patient who voluntarily comes, and who is not under the care at the time of any other practitioner. The golden rule of life is to do unto others as you would them to do unto you, and it would be paradoxical for the general practitioner to expect more from the specialist than he himself practises. We are apt to forget, in our zeal for medical etiquette, the rights of patients. The patient has a right to choose his medical adviser, general practitioner, or specialist. Our duty is, to act honestly.

If in general practice we are consulted about a case, and we cannot diagnose it accurately, it is criminal to carry the patient on for weeks or months without seeking other advice. If in special practice we magnify trifles and make mountains out of molehills, for the sake of extracting additional guineas, such conduct is equally criminal, and it is such conduct which brings a disgrace upon specialism. A patient of mine, without my consent, consulted a specialist. This specialist was of the vulture and speculum tribe, and he extracted seventy guineas from her, and would have had more, but chance enabled me to hear of his exploitation. A week's treatment under my care restored the patient. The diagnosis of the general practitioner is not always correct, but neither is the diagnosis of the specialist; so that charity, which covers a multitude of sins, may here find an application. And I believe it does, for the more highly educated a man is, the more disposed is he, in place of finding imperfections, to find excuses. There are many other points which I might have more fully considered, but these perhaps may be brought out in any discussion which may take place on my views. General practitioner and specialist have a unity of purpose, each working in their own sphere, but each working to a common end—the elevation of gynæcological practice and the relief of suffering women.

UTERINE MEDICINES.

By NAUNTON W. DAVIES, F.R.C.S.

IT can safely be said that no medicines are so disappointing in their action as those which are supposed to act upon the uterus and its appendages, and influence the menstrual habit in women. These remedies, so formidable in number, look very imposing when the long list is scanned; but is there not something in the multitudinous array suggestive of conscious weakness—of individual feebleness hidden in a crowd?

Borax, cantharidis, ergot, aconite, pulsatilla, caulophyllin, permanganate of potash or soda, peroxide of manganese, santonin, rue, savin, cimicifuga rac., sanguinaria, megarthes, pot. iodi, apiol, iron and the various cathartics.

Now, of all these remedies, have any of them shown a disposition to act consistently when given to different patients apparently suffering from identical troubles? It would be affectation to pretend that they have, generally, any such characteristics. Take borax as a sample. Given at one time it does good, without any unpleasant consequences, in the desired way; and the next time it is given, for the same purpose, it makes the patient very sick, and ends its eccentric usefulness at that distressing point. Cantharidis and ergot exemplify a similar want of consistent action, and when you give the one or other it is impossible to tell what the result will be. Then their failure is put down to a bad sample of these medicines, or to a want of diagnostic insight on the part of the physician. Aconite, it is true, can be depended upon to lower the plethoric state which sometimes interferes with the current of the natural function; but in this action it is a general depressant and not a special agent, although it brings about the same end as a classical emmenagogue would probably fail to produce. But if it is given for any specific effect it may be supposed to have upon the menstrual organs, under other conditions, it fails lamentably. But here the fault would be in the application, and not in the remedy, although its want of success under such circumstances would show the weakness of its claim to rank as an emmenagogue.

When the permanganates were introduced by Dr. Sidney Ringer and Dr. Murrell, they obtained a great many tentative believers, anxious to become permanent converts, and few were they who did not hope for great things from the use of these "new remedies."

But time destroys many illusions, and it is to be feared that this pleasant one has not been spared. It was claimed for the permanganate treatment that it "succeeded equally well in plethoric or anæmic cases." This parodoxical introduction to these remedies disposed some of the more sceptical to look upon their virtues with doubt, for, like mother Siegel's wonderful syrup, they pretended to work all-round miracles. First in the anæmic and then in the plethoric type of case, the permanganates completely failed in numerous instances, without one partial success to redeem them from the limbo of utter worthlessness as special uterine agents. This was my own experience, although I am aware that they have partially and sporadically succeeded in the hands of others, and notably in the hands of their sponsors. Their occasional success, however, does not make amends for their provoking and frequent failure, nor take them out of the list of unreliable remedies. Frequently, too, the disagreeable effect of permanganate upon the stomach is its most marked feature. Indeed, Dr. Marshall,

of San Francisco, suggests that it should be given with cocaine, cerium, and bismuth, to correct its tendency to produce nausea.

Peroxide of manganese is said to be more effectual than the salts of the metal; but as these partake of the general inconsistency of their class, and lead one to expect of them more than they enable one to realize, their constant action cannot be spoken of with any degree of confidence.

Santonin, introduced by Dr. Chèron shows the same characteristic indecision and waywardness in its effects. Dr. Chèron found good results following its administration in "amenorrhœa and dysmenorrhœa, more especially in cases characterised by anæmia, about the period of puberty." In similar cases, Dr. Amand Routh found it fail seventeen times out of twenty. How is this divergence of experience to be reconciled with any idea of consistency in the action of santonin as an emmenagogue? If it can be done, then the special virtues of santonin may be provisionally suspected to exist.

Rue, savin, cimicifuga rac. produce more certainly than any other agents, with the exception, perhaps, of ergot, a direct effect upon the uterus and its appendages, and specially stimulate the ovaries in a varying degree not always in proportion to the dose. In this way, the menstrual flow is sometimes brought about, but not always even in favourable cases, for an inflammatory state of the menstrual apparatus may be induced by the vigorous action of one of these agents, and yet leave the erring functions untouched. Here we have a fresh disappointment; the production of an effect, certainly, but not the effect desired. We have not to complain of a want of action, but of an uncertainty of action. Savin is notoriously unreliable in its effects, and I have known at least one death resulting from incautious self-administration of the drug, for the purpose of "bringing on the period."

Sanguinaria, megarthes (marsh trefoil), pot. iodide, apiol, iron, and the various cathartics have all had, and still have their advocates, and the most that can be said of them is that they are sometimes successful, and oftener unsuccessful, whether it be from the peculiarities of the case treated or from their own inherent defects. Of the long list of remedies noticed, there remain caulophyllin and pulsatilla, and of these much can be said of a favourable nature. Caulophyllin, the resinoid prepared from caulophyllum thalictroides, known in America under the various names of squaw root, pappoose root, blue berry, has been recognised in that country as a valuable therapeutic agent from very early times, and has been highly spoken of by many American physicians of note. Its name, "pappoose root," suggests the uses it was put to by the natives long before the cultured minds of our American cousins investigated its properties and catalogued its claims. There seems to be a general agreement amongst those who have studied its action, that its effect is chiefly felt by those motor nerves which are connected sympathetically with the menstrual organs, and that this action is of a sedative character, allaying that irritable condition of the generative system which so often lies at the root of functional irregularities. As a remedy in these derangements, in "irritable neurotics," especially when they are marked by disturbances in the sacral plexus, it has undoubtedly acquired a sounder reputation than most of its competitors, and deserves a permanent place in the select circle of approved remedies.

But its action, although often favourable when administered alone, is much more reliable when given in combination with pulsatilla (anemone pulsatilla, Pasque flower) which has long been known as a popular and effective remedy in uterine functional derangements. I remember not long ago being consulted by an old lady about a young friend of hers who was suffering from advanced anæmic symptoms, and had been the subject of long-standing amenorrhœa. She told me that the patient had been treated by several eminent doctors, and that they had failed to bring on the "period." "So I gave her some pulsatilla," remarked the old lady, "and brought nature to its senses." This story served to fix the remedy in my mind, and encouraged me to test its efficacy, which I have since done with good results. A few years ago it was well spoken of by Dr. Brunton and Dr. Gerard Smith as a sedative agent of much power in the treatment of inflammatory states of the testicle and spermatic cord, producing such rapid abatement of pain as to supersede even the necessity for morphine. As pulsatilla increases the beneficial action of caulophyllin, so the latter increases the action of the former, and it is, therefore, when they are both combined that we get the most perfect emmenagogue that our present state of knowledge has yet suggested. Indeed, it is not too much to say that this compound emmenagogue redeems from the charge of imposture the reputation of its dilapidated class.

In suitable cases I have used for a considerable time, and with gratifying success, the liq. caulophyllin et pulsatilla co.

It is not the purpose of this paper to enter into the treatment of the various forms of amenorrhœa and its allied complaints, but it may not be out of place to suggest that special remedies may fail when the cause is constitutional, and *vice versâ*. Many of the foregoing remedies have found their way into the special class of emmenagogues, because they have been used to treat some constitutional obstacle to the performance of the uterine functions, and because the imperfect function has been accidentally restored in this indirect way, they have come to be misnamed and misused as direct remedial agents. Hence, we have one good reason for the low estate to which the class has fallen. All of them may have their uses as indirect agents; while many of them may be used to the end of time, uselessly, if they are given upon no better ground than a simple faith in their use as emmenagogues. My own experience in the use of liq. caulophyllin et pulsatilla co. is most encouraging, and, while I urge with much confidence its use by my *confreres*, I would, at the same time, beg them to make their experiences known.

CONSANGUINEOUS MARRIAGES AND RETINITIS PIGMENTOSA IN CHILDREN.

By J. Oakley,

hon. surgeon halifax ear, eye, and throat hospital.

In the course of an investigation on deaf-mutism and consanguineous marriages, I met with several cases of retinitis pigmentosa in children of such marriages; and calling to remembrance the opinion expressed by Dr. Liebreich in his clinique at Paris, that more than one-half the cases that had come under his observation were children of relations in very close degrees of consanguinity, I traced the history of a few more closely; and the result was such that I place

the history of several cases before your readers, cases which I think strengthen the opinion of those surgeons who hold the view that consanguineous marriages are a frequent cause of retinitis pigmentosa. I do not propose to give you the clinical history of these cases, but the family.

M. W——, æt. forty-six, a pale, anæmic looking man, came to me in August, 1885. He was highly myopic, wearing —5. He had enjoyed fairly good health all his life, but knew that he had retinitis pigmentosa. He had been told so by an ophthalmic surgeon at Manchester twenty years ago. The disease had made very little progress until twelve months ago, when he found that he required to increase the strength of his glasses from —20 successively to —5, and that his sight was getting rapidly worse. His father and mother were first cousins. His father died at the age of fifty-six. His sight had been bad, and just before his death he was nearly blind. M. W—— believes that his grandfather's sight was very bad. His mother married again. By the first marriage she had two sons, M. W—— and a younger brother; by the second, three daughters. I have examined them all. The younger brother by the first marriage has retinitis pigmentosa. The mother and three daughters are perfectly healthy. M. W—— married a first cousin. He has had two children, a son and a daughter. The son, æt. fourteen, has retinitis pigmentosa. The mother and daughter's eyes are perfectly healthy. The son is also myopic. M. W——'s father's sister married a first cousin, and went to America. At my request he wrote to ask them to see an ophthalmic surgeon, with the result that the mother was found to have retinitis pigmentosa, and one son also out of six children.

E. G——, æt. sixteen years, rather a stupid, heavy-looking girl, was brought to me in May, 1886. Her sight was very defective, highly myopic, with —4, v = $\frac{12}{70}$. Upon examination, I found retinitis pigmentosa. She has one brother, æt. twenty-two, and one sister younger. They are both highly myopic, but had no trace of retinitis pigmentosa. Father and mother were first cousins, both dead; but the grandmother, who is living, says that they were both deaf, and had very defective sight. She herself has good vision, but she states that her husband's sight was bad, and that he was her second cousin. The old lady brought me another daughter to examine. She was myopic, but had no disease of the fundi. She, however, married a near relative, and says that she has five children, that some of them are strong, that one is deaf, and another has hip-joint disease.

H. L——, æt. twenty-seven, came to me in September, 1886. His sight had been bad since childhood; had been ordered spectacles in London when he was nine years of age, and his father was told that the boy had retinitis pigmentosa. The father was also affected, and had been dead for some years. His father and mother were nearly related. They had seven children, but he was the only survivor.

In the ordinary routine of hospital and private ophthalmic work I believe cases of retinitis pigmentosa are not common. Indeed, during the last three years, I have examined upwards of 5,000 patients, and have only met with nine cases; but I have, during the last twenty years, had a very extensive family practice, and I have carefully recorded the results of marriages of consanguinity. They are very interesting, and I hope on some future occasion to bring some of the facts before your readers. The result of my observations seems to me to prove most conclusively that consanguineous marriage is one, if not the chief, cause of retinitis pigmentosa; and I am certain that family medical men will do well to closely observe the lives of children of consanguineous marriages, more especially where it is known that the parents are not healthy. They will often find symptoms of disease which it is wise to recognise early. I do not mean eye diseases only, but the varied diseases that follow intermarriages of diseased parents; and when one sees a child about twilight groping about, and with no evident external eye symptoms, it is well to know quickly what is the cause, and if retinitis pigmentosa, judicious treatment will arrest its progress. I certainly do not think it is a disease beyond the reach of treatment. I believe that I have checked it in young children when the treatment has been carried out effectually. I do not mean to say that the marriage of perfectly healthy cousins may not result in healthy offspring. Modern investigation shows otherwise; but my experience, and that of several *confrères*, is that one or more children of such marriages are unhealthy; and I do think that it should be widely known, as interesting society generally, that retinitis pigmentosa is one of the many evils that are apt to result from inter-marriages with near relations.

ON THE LOCAL TREATMENT OF NON-SUPPURATIVE DISEASES OF THE MIDDLE EAR.[1]

BY ADOLF BRONNER, M.D.,

SURGEON TO THE BRADFORD EYE AND EAR HOSPITAL.

IT is quite a common thing to hear about non-suppurative diseases of the middle ear: "Leave them alone, do not interfere; no good can be done, and all treatment is useless waste of time and money." It is due to this wise doctrine that many people with disease of the middle ear do not seek medical advice till they are quite deaf, or very nearly so. The great secret of success in the treatment of diseases of the middle ear, on the contrary, is to try and get the cases at the very onset of the disease. We can then in most cases restore normal hearing, or at least arrest the progress of the disease.

The greatest triumph of otology in late years has been the fact that we have at last recognised how very intimate the relations are between the diseases of the nose and pharynx and those of the middle ear. In aural practice you very frequently meet with cases of diseases of the middle ear, which have been under treatment again and again. The disease always breaks out afresh as soon as the treatment is stopped. You examine the nose, find some disease of the mucous membrane; you cure this, and the disease of the middle ear returns no more. In all cases of chronic or recurrent diseases of the middle ear, we ought therefore carefully to examine the nares and naso-pharynx, and ascertain if there be any obstruction to the free passage of air over the Eustachian orifice, or if there be any source of inflammatory reaction. In the nares the obstruction may be caused by swelling of the mucous membrane, or by polypi. For the former we now mostly use the galvano-cautery, and for the latter the cold or hot wire snare. Forceps, formerly exclusively used for the removal of polypi, have now been universally abandoned. I always use the cold wire snare, and then burn the roots of the polypi with the galvano-cautery, to prevent recur-

[1] Paper read before the Bradford Medico-Chirurgical Society, March, 1889.

rence. The obstruction may be caused by hypertrophy of the osseous tissue of the lower turbinated bones, or by swelling or a tumour of the septum, which we have to remove by the knife or saw. It may be deviation of the nasal septum. This is usually situated in the cartilaginous part. It can be straightened by strong forceps, as suggested by Adams, Jurasz, Delstanche, and others; or the bulging part may be removed by the galvano-cautery or knife. In the latter case, if you first loosen a flap of the mucous membrane, and then cut out a piece of the cartilage, you can remove the obstruction without leaving any subsequent perforation.

In the naso-pharynx the obstruction is generally caused by hypertrophy of the pharyngeal tonsil, commonly called post-nasal growths. This is a very common disease, especially among children. At least 3 per cent. of children under fifteen suffer from post-nasal growths. The symptoms of post-nasal growth are very evident. The child cannot breathe through the nose, keeps its mouth open, which gives it a peculiar and stupid expression, and it invariably snores at night. The great importance of post-nasal growths is their relation to diseases of the middle ear. Of 198 cases of diseases of the middle ear in children under fifteen, which were under my care in 1887 and 1888, post-nasal growths were found in 101 cases, or over 50 per cent. Of 151 cases of post-nasal growths, 125 cases, or 85 per cent., showed symptoms of disease of the middle ear. I usually remove the growths with Hartman's curette, and in young children never use an anæsthetic. The operation is very simple, over in a few seconds, and there is not the slightest danger. If an anæsthetic be used, the operation becomes much more formidable and dangerous.

Chronic hypertrophic rhinitis very often causes disease of the middle ear. The milder kinds of treatment, such as the nasal douche, various kinds of snuff, etc., are of very little use. The only effective mode of treatment is to use the galvano-cautery. With the help of cocaine, this operation can be rendered practically painless.

Ozæna, or chronic atrophic rhinitis, very often spreads into the middle ear. These cases are obviously very hopeless. Of sixty-four cases of ozæna which I have seen and treated in late years, the middle ear was affected more or less in forty-eight cases.

In treating affections of the pharynx, the galvano-cautery is now largely used, especially in cases of granular pharyngitis. I also use Mandl's solution (iodine, iodide of potassium, and glycerine) for painting the pharynx.

Roughly speaking, we can divide the non-suppurative diseases of the middle ear into three classes: acute catarrh, chronic catarrh, and dry catarrh or sclerosis. It is often very difficult to say if the case be one of disease of the middle ear only, or if the internal ear be not also affected. Up to the present, we know of no very definite objective symptoms by which we could distinguish between the two affections. We know that in diseases of the middle ear, ærial conduction is more affected than bone conduction, and that high notes are heard better than low notes, and *vice versâ* in diseases of the internal ear. For the differential diagnosis we use high and low tuning forks and Galton's whistle. We usually first try "Rinne's test." You press a tuning fork on the mastoid process, and hold it there till the sound is no longer heard. Then you hold it in front of the ear. If the ear is normal, or if the internal ear is affected, you can hear the tuning fork in front of the ear, when you can no longer hear it on the mastoid process; Rinne is then said to be positive. If the middle ear is affected, you hear the tuning fork longer on the mastoid process than in front of the ear. Rinne is then said to be negative. If you place the tuning fork on the middle of the head, you hear it louder on that side on which the middle ear is affected or most affected. This is called Weber's test.

In cases in which there is much ankylosis of the ossicula you can hear much better in a loud noise, in a railway carriage or mill—so-called Paracusis Willisiana. In these cases there is obviously little hope of improvement. I saw a very evident case of this kind some time ago. A gentleman walked into my consulting-room, looked about him in a peculiar sort of manner, and asked me in a loud voice if there was a piano in the room. On my answering "No," he pulled out a small concertina, and began playing. At first I thought he must be slightly mentally deranged, and was much surprised when he said: "Please excuse my making this awful noise, as I can hear you so much better." As long as he continued playing, he could hear me fairly well; but as soon as he stopped, he could scarcely hear me at all.

In cases of acute catarrh, with much pain, we apply leeches and hot fomentations. Leeches are most effective if applied in front of the tragus, much more so than if applied on the mastoid process. Linseed and bread poultices often give rise to severe and even fatal suppuration and should not be used. Hewetson found that in cases in which there is much pain the glycerine of carbolic acid B.P. dropped into the external meatus often relieves the pain, and prevents perforation of the drum-head. If there be much bulging of the drum-head, we ought to make a free incision into the most prominent part. The bulging is generally found, not in the lower half, as one would expect, but in the upper and outer quadrant. If there be much secretion, which does not readily become absorbed, we incise the drum-head in the lower and outer quadrant. In cases of frequent recurrence of the secretion, we incise and syringe out the tympanum through the Eustachian tube. As soon as the acute pain has ceased, and not before, we use Politzer's bag, or the Eustachian catheter. This is of very great importance, as it prevents subsequent adhesions of the drum-head to the walls of the tympanum, which are otherwise very apt to occur, and as a matter of fact, do occur in most cases which are not carefully treated.

In chronic cases we now use the Eustachian catheter almost exclusively in preference to Politzer's bag. The immediate effect of the catheter is not always more marked than that of the bag, but the improvement in hearing lasts much longer. The catheters now in use are much shorter and smaller than those formerly used, and if the cocaine spray be applied to the nostrils the catheter can, with a little practice, be introduced without any pain or discomfort. Another advantage in the use of the catheter is that by the help of the otoscope you can in most cases hear if the Eustachian tube be open, or if there be any fluid in the tympanum. If you cannot hear the catheter (granted that it is in the proper position) there must be some obstruction in the Eustachian tube, either simple swelling of the mucous membrane or a structure, or the drum-head must be adherent or the tympanum filled with fluid. If it be simply swelling of the mucous membrane, this can be readily removed by passing cocaine or menthol fumes into the Eustachian tube through the catheter. Menthol dissolved in spirits of wine (20 per cent.), on cotton-wool, is introduced into one of Hartman's or Lucae's disinfection

capsules, and the capsule fixed on to Polizer's bag. The fumes are thus forced through the catheter into the Eustachian tube. Instead of Politzer's bag I use a double bag (*a* and *b*), as suggested by Lucae (fig. 1). It is attached to your button-hole by the hook *c*, and the end of the india-rubber tube (*d*) is fastened on to the catheter The advantages of this form of bag over the ordinary Politzer's bag are obvious. Sometimes you have to pass a probe into the Eustachian tube through the catheter. I use celluloid probes with a conical end. The probes are passed about three centimètres into the Eustachian tube, and ought to be marked to avoid the possibility of passing them too far, and thus injuring the drum-head or ossicula. Electrolysis has also been used to remove any stricture there may be in the Eustachian tube. We must be very careful to thoroughly disinfect the catheter after use. Not only can the germs of suppuration be carried from one person to another, or from one ear to the other ear of the same person by a dirty catheter, but what is of very great importance, syphilis can be, and frequently has been inoculated. The best and simplest method of disinfecting catheters is to boil them in water for about five minutes. I keep a large stock of catheters, and boil the used ones every evening.

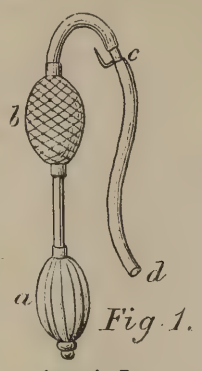


Fig. 1.
Lucae's Bag.

It is of great importance to know if the drum-head be freely movable. This can very readily be done by Siegle's pneumatic speculum. It ought to be tried in every case.

In cases of ankylosis of the ossicula, Lucae has suggested the use of a "pressure sound" (fig. 2). It consists of a

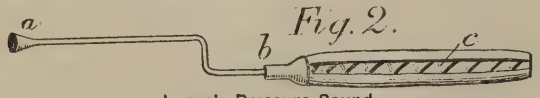


Fig. 2.
Lucae's Pressure Sound.

probe with an excavated end (*a*), which is covered with a thin layer of cotton-wool, and which is attached to a spiral spring (*c*) concealed in the handle. You put the end *a* on to the point of the short process of the malleus, and press the probe several times. In cases of chronic catarrh

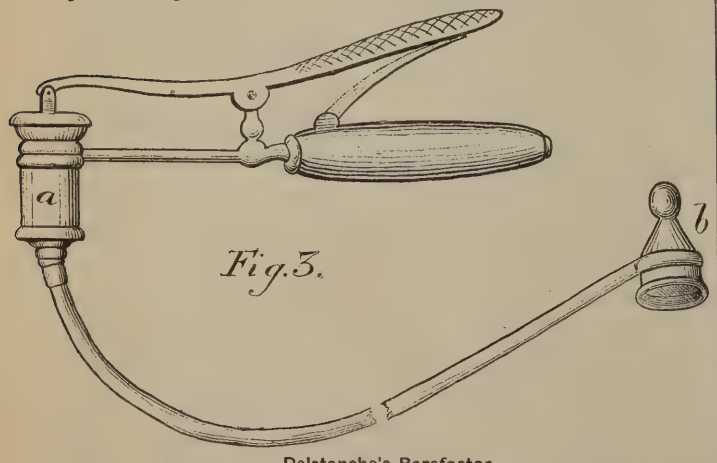


Fig. 3.
Delstanche's Rarefactor.

this is not at all painful. Delstanche, of Brussels, has introduced a very ingenious instrument for a similar purpose (fig. 3). By the help of a small air-pump (*a*) attached to a pneumatic speculum (*b*) you can either simply move the drum-head up and down (massage), or by increasing the vacuum break down any slight adhesions of the drum-head. The operation must be controlled by the frontal mirror. As far as my experience goes, this instrument is of very great use if used together with the catheter, but if used alone it does not seem to leave any marked effect.

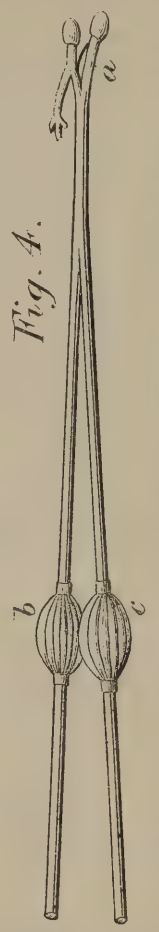


Fig. 4.
Ward Cousins' Bag.

Ward Cousins has suggested a modification of Politzer's bag by which he proposes not only to blow air into the middle ear, but also to aspirate air and fluid out of the middle ear. A nose piece (*a*) is fixed into the nostrils, then one bag (*b*) compressed with the left hand, and the other bag (*c*) rapidly compressed several times with the right hand, and then you let both bags suddenly expand at the same time. There is a spring in the bags so as to enable them to expand more suddenly.

If the drum-head is much indrawn, and the posterior fold very prominent, we often find that an incision through the fold improves the hearing very considerably. Unluckily the effect mostly passes off in a few days. If the drum-head be adherent we try to divide or cut round any adhesions there may be. If it be very thick, and the deafness well marked, it has been proposed by Schwartze to cut out the whole of the drum-head with the mallens. Kessel has proposed also to remove the stapes in these cases. Formerly the tensor tympani muscle was frequently divided, as suggested by Weber-Liel, but the operation has in late years been abandoned. Cholewa, of Berlin, lately recorded several successful cases.

Sclerosis, or dry catarrh of the middle ear, is the disease we dread most in otology. It is a very chronic affection, and often hereditary. The first symptoms generally are buzzing noises, followed by a very gradually-increasing deafness. Music and noises are often heard perfectly well when "speech" is only heard with difficulty. You frequently see people in concerts, or theatres, who hear and appreciate every note, and can at once detect any false note; but if you speak to them you find that you have to talk very loud if you want them to understand you. Sclerosis always affects both ears, but one ear generally begins first. The deafness in the second ear mostly increases much more rapidly than that in the first ear, and eventually becomes greater. This is a very curious phenomenon, and difficult to explain. The drum-head appears in many cases to be very little affected. Often it is of a milky grey colour; often very thin and atrophic. In the latter case we make numerous incisions, in the hope of thus causing it to contract and become firmer. In sclerosis the deafness is caused by degeneration of the mucous membrane of the middle ear, followed by ankylosis of the ossicula and thickening of the membranes over the fenestra ovalis and rotunda. In advanced cases the disease generally spreads on to the internal ear. The catheter is of very little use, and we have to rely on Lucae's pressure sound, Delstanche's rarefactor, combined with local treatment of the mucous membrane, and also with general treatment. All kinds of fumes and fluids have been suggested for injection into the middle ear—steam, chloride of ammonia fumes, iodine fumes,

ætherial oils. I have lately exclusively used menthol and eucalyptus, and have had very encouraging results.

Various fluids have also been injected—solutions of iodide of potassium, chloral hydrate, sulphate of zinc, carbonate of soda, pilocarpine. I use a solution of carbonate of soda, iodide of potassium, glycerine, and water. The fluid can either be injected through an ordinary Eustachian catheter, or better, through Weber-Liel's tympanic catheter. The latter is a thin indiarubber catheter, which is passed through the Eustachian catheter, and three centimètres beyond. The fluid is then injected into Weber-Liel's catheter with an ordinary Pravaz's syringe.

CASE OF GOUTY AND PULMONIC (?) EMBOLISM.[1]

By J. Gordon Black, M.D. Lond. (Harrogate).

The changes impressed upon ordinary pathological processes by the different diatheses, and by specific infections, constantly afford studies of profound interest to the busy medical practitioner. Often it is only the accumulated experience of years which prevents the physician being baffled by the very unusual guise in which some "old familiar friend" in the shape of disease has clothed itself. The keen eye and practical experience of a trained scientific observer is, however, happily enabled to work wonders in following up and elucidating nature's puzzles in pathology! For example, such light may be thrown upon an apparently obvious case of cancerous ulceration, necessitating the amputation of a valuable limb, as to drag out of its obscurity some mysterious phase of syphilis. Consequently a few big doses of potassium iodide put an end to further anxiety, and saved a valuable member to a useful life. Or it may be an aggravated biliary derangement, with threatening jaundice, which has obstinately resisted the most painstaking and varied therapeutics. Here an "open sesame," is found in the simple fact, probingly elicited, that the sufferer has spent his early years in a malarious country. The alterative treatment, which, indeed, seemed most appropriate, must now be combined with quinine, in order to carry the case to a successful termination. On the other hand, the patient may be approaching dissolution under the heavy, combined, weight of most serious symptoms. His heart, labouring even to a degree, is yet only able to produce a pulse of fifteen to twenty in the minute at the wrist, the beats being of the greatest irregularity. Breathing is laboured, or like the urgent gasp of a confirmed asthmatic; whilst a profuse bloody expectoration is being brought up by the hacking cough. Liver dulness reaches nearly to the level of the umbilicus, at the same time that the abdomen is distended by ascites, and both legs are anasarcous. At least half a pint of blood is frequently passed with the stools, and this has been going on for many weeks. Lastly, the urine is freely albuminous! The case looks perfectly hopeless, and may puzzle "even the very elect!" However, it turns out to be only another instance of the symptomatic vagaries of that *Deus ex machina*—gout! It is a functional disturbance, and capable of being removed by remedies, simple in themselves, but directed towards the central neurosis. The difficulty in diagnosis has been the recognition of apparently serious organic lesions, in various important organs, as merely the remote effects produced by a central neurotic disturber. Once the cause is recognised, the therapeutic way is opened to a happy and apparently wonderful cure.

To a Harrogate practitioner, the various phases of the gouty or the uric acid diathesis must always be specially interesting. The following notes respecting a case of certainly uncommon occurrence may therefore, I hope, prove acceptable to, and be profitably discussed by, this society.

My patient was a gentleman of good social position, about seventy years old, who, being a fellow of his college, and having enjoyed a good private income, had never needed to employ his faculties, either mental or physical, as a means of livelihood. He possessed in a marked degree the uric acid diathesis, but, as is not unfrequently observed in such cases, had never experienced an acute attack of gout, or even anything approaching this in character. Being of powerful physique, he had kept himself healthy by taking long walks, and making a business of fishing, shooting, rowing, etc. His main drawback had been the possession of an unusually sensitive nervous organization, accompanied by much difficulty in procuring sleep, unless under specially favourable circumstances. In later years his spirits had become so irritable and depressed as to produce aggravated hypochondriasis. He even frequently talked of his great dread of committing suicide. Being a man of religious surroundings and sympathies this was naturally most distressing to him. His sleeplessness also increased so much as to become a monomania. Lodgings had to be secured with special reference to quietude at night and the absence of striking clocks or crowing roosters; whilst the bed-room window-blind was made of such a thick material as would exclude every suspicion of light. Latterly, even with these aids, he was very much dependent upon the use of various sedatives for obtaining sleep, without which he speedily reached a pitch of irritability and excitement pitiable to witness. As might be expected, constipation was another of his enemies. Nevertheless, he was not at all inclined to be bilious, and did not suffer from many of the ailments peculiar to his diathesis. He had no dyspepsia, acid eructations, or pains in the stomach or bowels. The tongue was nearly always clean, or had only a slight fur at the back, and he was never troubled with hæmorrhoids. There was no palpitation of the heart, though when a little out of sorts its beats would become irregularly intermittent. The pulse, however, was very characteristic. Being about sixty to the minute, it was usually regular, excepting the occasional intermittency referred to above, whilst the beat was particularly full, and marked by very high tension. Shortness of breath was not complained of, and he was an excellent walker, and climbed hills with ease. Attacks of migraine, or neuralgia, were conspicuous by their absence.

Now the ordinary urine in this case was always highly coloured, very acid, and loaded with uric acid and urates; but it was abundant rather than scanty. After standing an hour or two the uratic out-throw was so large that, on tilting the vessel, thick lines of red sand could easily be formed at the bottom in any direction. The specific gravity was always high, and the urine invariably contained a distinct trace of albumen. During a sleepless night, or whilst under excitement, large quantities of pale urine of low specific gravity were passed, as in hysteria. Bile acids were increased in the ordinary urine, though not to any marked extent. If Dr. Latham's theory be true as to the imperfect transformation of albuminous matters in the liver, with the resulting production of insoluble uric acid, instead of the soluble urea,

[1] Read before the Harrogate Medical Society.

it occurs to me as strange that, in a case like this, there should be complete absence of anything like biliary derangement, or its symptoms.

Naturally the patient had a large appetite, and nothing came wrong to him. Though fairly abstemious as to drinks, a dinner of even aldermanic proportions seemed to cause no trouble, and produced no symptoms, beyond, perhaps, a temporary excess of lithates in the urine.

No doubt for years my patient had kept himself in good health by the large amount of exercise he had taken. Advancing age, however, must have very much curtailed its actual quantity, and probably deterioration began in the difficulty of getting rid of the bye-products of assimilation.

About two years ago he suffered severely from carbuncle at the back of his neck, and a few months afterwards lost a quantity of blood from epistaxis, which appears to have been stopped with difficulty. Soon after this he came under my care, when I found him considerably run down in condition. His complexion was pale and parchment-like, with a slight icteric tinge. Under a more liberal diet, and an allowance of flesh meat, which had been interdicted from fear of the hæmorrhage returning, he soon improved. During a course of the "Old Sulphur Well" quite a nest of gravel was passed. The concretions were about two dozen in number, and varied from the size of a millet seed to that of a small pea. Such a lodgment would be sure to cause very considerable reflex irritation, and certainly the mental symptoms became tranquilised, and sleep more regular afterwards. Judging from my own experience, this systematic flushing out of calculi, whether renal or biliary, is by no means an uncommon occurrence whilst the "Old Sulphur Well" is being administered.

My patient continued steadily to improve till he left Harrogate, in seemingly excellent health, for a man of his years, about the beginning of October, 1887. I did not see him again until the 31st March last, when he looked fairly well, and I did not notice that he had lost condition during the winter. The only treatment ordered was a morning draught of the "Old Sulphur Well," as an aperient. It has been necessary, thus far, to mention details in this case, in order to properly appreciate the more serious symptoms which now followed. On Tuesday morning, the 3rd of April, he called at my house in almost a frantic state of excitement, saying that while walking out he had been suddenly seized with a most violent pain in the right knee. He nearly fainted, but managed to support himself against some iron railings until he was able to move on to my house. On examination I found that the right knee-joint was already considerably swollen as in synovitis. The surface of the skin was not reddened, nor did its temperature seem raised. Evidently there was still acute pain, for the patient could scarcely bear the least movement of the limb. I concluded that embolism, of gouty origin, had occurred in one of the exedent vessels of the joint, and I had him removed to his lodgings, and put to bed. The knee-joint was carefully fixed on a back splint, and suitable soothing lotions were applied. He seemed quite helpless, and was dependent on the services of a man nurse. Though two very restless days and nights were then spent, the trouble continued to be limited to the affected joint, and no constitutional symptoms manifested themselves. At my visit on Thursday morning, pain and swelling had considerably subsided, and his recovery was evidently only a question of rest for a few days. About noon, however, of the same day, he was rash enough to get out of bed, in order to reach some article from a chest of drawers. His man servant, who was in the room at the time, suddenly heard a loud thud; and on looking round, saw the old gentleman lying full length upon the floor, apparently in a fit. Of course he rushed to give assistance, and called the lodging-house keeper and her husband, who were on the spot in a few seconds. The patient was quite insensible, and they at first thought him dead. However, on lifting him upon the bed, he seemed to breathe again. Meantime I was summoned, and fortunately arrived in a few minutes, just when consciousness had returned. A terrible alteration had taken place during these few minutes in the appearance of my poor friend! His face and body were blanched to a degree, and had all the aspect of a person having undergone a frightful hæmorrhage. Scarcely any pulse could be felt at the wrist, and, on listening to the heart, its formerly strong and regular beats were found replaced by a feeble fluttering. The breathing was laboured and gasping, whilst a clammy perspiration had broken out on the forehead. It clearly looked as if the sufferer had not many minutes to live. I lost no time in injecting half a drachm of ether into each arm and each leg. This seemed to rouse him a little, but I was alarmed to find that he wanted to get up to the night stool. I was afraid he would die in the effort to rise, but he insisted, and succeeded. Of course I expected to see that a large hæmorrhage had occurred from the bowel, but was agreeably surprised to find a large pultaceous stool of healthy character. Mr. Hunt, whom I had sent for, arrived about this juncture, and the patient was injected with ether as before, so that in the course of about fifteen minutes he must have received at least four to five teaspoonfuls of ether hypodermically. Some slight rallying of the pulse was now manifest, but the whole aspect of the patient was that of a dying man. On careful auscultation of the chest, the only physical sign discovered was decided dulness over the left lung in front, extending outwards and upwards from mid-sternum, and the præcordial region. Breathing over this area was, moreover, scarcely audible. On inquiry, complaint was made of a feeling of weight and oppression over the front and left side of the chest, but there was no acute pain, nor was there any cough or expectoration. Nervous, irritable, and even childishly timorous of slight ailments when in health, it was remarkable to see how absolutely calm he had become when death was staring him in the face. After two or three hours of imminent danger, during which life hung, as it were, in a balance, a genuine rally took place. The pulse began to improve, and the surface of the body became warmer. Gradually temperature increased, reaching during the night and following day 100° to 102½°. The pulse also rose to about 100 per minute, but it remained very feeble, and all its old fulness and tension were gone. I need not trouble the Society with details of convalescence in this case, but wish to point out that the dulness noticed over the left lung became less and less each day, and, as it did so, the breathing over the silent area increased more and more, until—about the end of the first week—the dulness had entirely disappeared, and respiration was natural again. About the same time the temperature also subsided to normal. However, the pulse was much slower in recovering tone. Even after a fortnight had elapsed it was far from being strong. Convalescence may be said to have been established at the end of six weeks, when something like the old characters were once more noticeable in

the pulse beat. Of course, I was for a long time in considerable fear lest exercise might bring about a renewed attack, but nothing untoward happened, and at the end of four months my patient left Harrogate in apparently his customary health. Though five months have since then elapsed, he remains well, I am glad to learn.

There was nothing worthy of remark in the treatment of this case, save perhaps the liberal hypodermic use of ether. This, I think, must be credited with having assisted in tiding over the serious crisis; though, of course, it is impossible to say that the *vires naturæ* would not have proved sufficient in themselves. The diagnosis is foreshadowed with sufficient clearness, I believe, in the following extract from Dr. Robson Roose's excellent monograph on "Gout." At p. 89, 5th edit., he says:

"In connection with the circulatory organs, gouty phlebitis requires to be briefly noticed. Inflammation of the veins, especially in the lower limbs, is somewhat liable to occur in gouty subjects, and either with or without acute attacks in the joints. The superficial veins are those most frequently affected; the inflammation begins very suddenly, and causes severe pain and tenderness. It may spread continuously, and may appear simultaneously in several veins. It sometimes disappears, and affects other veins at a distance. . . . . Symptoms of embolism have been known to supervene, with death from obstruction of the pulmonary artery as a result."

The above quotation seems to me fairly to compass the subject. The preliminary seizure of the right knee joint, accompanied by intense pain, and followed by swelling, pointed clearly to an embolic formation. Since fibrine is considerably increased in the blood during a gouty attack, it is not necessary to suppose a venous inflammation as the commencement of such a seizure. It seems to me more probable that a clot of blood is the initial error, judging by the extreme suddenness of attack. The subsequent and infinitely more alarming symptoms, I cannot explain on any other theory than that of a similarly sudden obstruction of the left pulmonary artery or vein having taken place. A clot in the pulmonary vein might be expected to cause rapid œdema of air cells in the left lung, accompanied by the important signs of decided dulness and loss of breathing over the affected area. The exceedingly slow disappearance of these physical signs, together with the more tardy recovery of the pulse (naturally one of high tension) seem to preclude the idea that such an attack could be due to a mere syncope!

Accidents, similar to the above, ending in more less sudden death, are, I believe, not uncommon in persons of the gouty habit. The manner of life of such individuals after the age of forty seems eminently calculated to bring about a catastrophe. Most people after middle age begin to circumscribe the amount of exercise to which they have been accustomed in previous years. This greater tendency towards inertia does not however materially curtail the appetite for bodily food of all kinds, which is indeed too often stimulated by the "pleasures of the table." Thus at a period when the physiological processes of secretion and excretion are diminishing in activity, a more importunate demand than ever is made upon their waning powers. The overtaxed system, therefore, becomes surcharged with its own waste products; the proportion of fibrine in the blood is dangerously increased; and in the resulting train of gout and its allies is apt to be included a mode of dying which is fearfully precipitate. Now, to eat seldom and sparingly, is the almost universal custom of those who attain to any considerable age. Even a somewhat free indulgence in alcoholic liquors appears to be better tolerated by the economy, and causes less trouble in excretion than a similar excess in taking solid food. People need not be ill because they are old, if only they would take care to adapt the mode of life to the constitutional change which years have wrought. The earnest physician, therefore, must never be weary of preaching moderation to elderly patients of the gouty habit. Though in a few cases the laying down of rigid rules as to particular kinds of diet may be required, yet for the majority I would feel inclined to place more faith in the prescription of two or three simple meals daily, together with plenty of fresh air, sunshine, and exercise.

FOOD AND DRINK.

By E. Bonavia, M.D., etc.

Has the quality of food and drink no influence on the present and future of a nation? If it has, then I propose here to endeavour to find out how far our knowledge on this subject can help us to decide what kinds of food and drink are likely to be best for us now and in the future.

Meat, vegetables, alcohol, and water, are largely used by large sections of mankind. Have we any means, from what we know, of speculating reasonably about what is likely to be the result of extensive changes in the food and drink of a nation? Whether one ought to be a meat or a vegetable eater, and an alcohol or a water drinker, seems to have very seriously exercised many persons' thoughts, and appears to be doing so still. Not very long ago, in contemporary journals, there appeared an article on "Scientific Temperance," and another entitled, "Instantes Tyranni." On the 30th of April, 1889, there was a discussion in the House of Commons regarding the *Abkàri* Department. It was stated that in India increased facilities for drinking spread misery and ruin among the industrial classes. It may not therefore be out of place to add a few ideas to the literature of vegetarianism and temperance.

Meat and Vegetables.—It will be fruitless to endeavour to go back to the origin of things, and investigate the cause of monads having branched off into the animal kingdom in one direction, and into the vegetable kingdom in the other. Nor would it be of much advantage to try and unravel the problem whether carnivorous food led to aggressiveness, or aggressiveness first led to a carnivorous diet. What I wish to do is to take things as they are now, and try if we cannot extract from experience some wholesome general notions about the value of these four great divisions of the ingredients that have built and are building up nations. I think it will be conceded that the carnivora, whether mammals, birds, or fishes, have more courage and dash in their nervo-muscular apparata than the herbivora. The former are more ready to attack and pursue, while the latter are more ready to run away. If a vegetable diet were as good in the race of life as a meat diet, it is not likely that the Hindoos would have been conquered by a much smaller number of Mohammedans. Nor is it likely that both would have been conquered again later on by a European power. There are many Indians, of course, who eat meat; but as a nation, they are vegetable feeders, with the addition of milk and "ghee." The Hamran Arabs are essentially meat eaters

(we might say *raw* meat eaters). The illustration at p. 254 of the "Nile Tributaries of Abyssinia" is sufficient to indicate the diet of these people. All their hunting exploits are mainly with the object of getting meat, and Sir Samuel Baker has borne witness to the courage, "elan," and marvellous prowess of the *Agageer*—the hunters of the elephant and lion on foot, with the sword! It is doubtful whether a vegetable feeder, even if he trained himself for fifty years, would be able to jump off a horse at full speed, and, sword in hand, hamstring the elephant, as these men are said to do. There is a *something* given to the blood, and thence to the nerves and muscles of the whole frame, by meat, which I believe is not to be got from any amount of bread, beans, and turnips, or other vegetable diet alone.

The Zulus and the Soudanese have shown such unmistakable tiger-like action in their encounters with the British, that without knowing what their regular diet is, I should incline to believe that they live mainly on meat; while, on the contrary, I thould say the mass of the Egyptian people live on a vegetable diet—probably bread, beans, pumpkins, onions, and dates, meat being beyond the means of the majority. It would be satisfactory to know whether this is so. If not, then to what was the cowardice of the Egyptians, and the leonine courage of the Soudanese and Zulus, due? Was it all due to constitution, without reference to diet?

The "Book of Health," by Malcolm Morris, lately published, at p. 169 has the following:—"Sir Francis Head, speaking of the Pampas Indians, in South America, says that they have neither *bread*, *fruit*, nor *vegetables*, but they subsist entirely on the flesh of their mares; that they wear no clothes, and that the climate is burning hot in summer, and freezing in winter." Speaking of himself, Sir F. Head says, that after living on Indian diet for three or four months, and riding all day, he felt that "no exertion could kill him." He was on horseback before sunrise, could ride till two or three hours after sunset, and he really tired ten or twelve horses a day. He said he was confident that this could "only be done on beef and water." I never heard of any vegetable feeder being able to do anything approaching this. One meat eater, in one day, was able to tire twelve vegetable feeders (horses)!

Now, we all know that what one person can digest, another cannot. In fact, this experience is probably as old as man himself, and has given rise to the adage: "What is one man's meat is another man's poison." Doctors have also told us that, in their experience, under-done meat is often more easily digested by a weak stomach than any other food. An instance has been given of a patient, who was sinking from weakness, and inability to digest any of the many kinds of food he had tried. A new doctor he consulted advised him to try an under-done partridge, which was found perfectly suited to the weak patient's stomach. Then we are also told that in cases of persons suffering from starvation, the best diet to give them at first is a small quantity of raw meat, finely chopped; because, under such circumstances, neither is the mucous membrane of the stomach able to secrete gastric juice, nor, even if it were, could the mucous membrane of the intestine suck up the digested food. The juice of the raw meat, it is said, is sucked up by the capillaries, without requiring digestion, and so helps by degrees to revive the starving frame. It would therefore appear as absurd to prescribe a vegetable diet for everyone, as it would be to prescribe a dose of castor oil all round.

It is not reasonable that people whose ancestors, for generations, have lived and procreated, and have been selected by nature, on a meat diet, can be benefited by, all at once, turning vegetarians (not milk, egg, cheese, and butter vegetarians, but *strictly* vegetarians).[1] I should say their nature would be gradually altered with the thorough change in their diet. Our being, it appears to me, is inseparable from our diet, as one of our surroundings, in spite of the theories of laboratory chemists. I feel certain that the lion would not be benefited by a similar change, although the originals from which all animals have come may, and probably must, have been strictly vegetarians. I think if a person is much benefited by a change from a mixed to a rigidly vegetable diet, it is probable that he was either in the habit of eating too much meat, or too much of both meat and vegetables. In such a case he would probably have been equally benefited had he only *restricted* his total diet.

It would seem more sensible to direct a crusade, not against this or that kind of food, but against the habit of eating too much, or more than one needs. To tell the truth, however, I don't think that it is so much the fault of over-eaters that they do exceed, although habit, no doubt, has a great deal to say in the matter; but habit even, philosophers now tell us, can be *inherited*. I once asked a friend who had the Darwinian theory at his finger's ends the following question: How is it that almost universally our appetites are larger than our actual needs? It would be clearly an advantage if the appetite ceased as soon as the system had had enough. After a few seconds' thought, he said: "In by-gone times, when food was not so easily obtained, it was clearly an advantage to the individual to eat more than was needed at the time. Those who could not over-eat would, at times, suffer from starvation, and might be extinguished in the race of life." It is probable, therefore, that our sins of over-eating may be due, to some extent at least, to ancestral imperative greediness.

Ancestral inherited defects can no more be extirpated by a stroke of the pen than the dog can get rid of his ancestral big toes all at once. They still assert themselves, now and again, as dew-claws. It is, therefore, probable that man will have to bear with gout and nightmares from eating too much for some time. They may be only the result of ancestral habits, and will be got rid of, in the course of evolution, as soon as may be possible.

Eating too much, however, may not be entirely the fault of either eaters or their ancestors. A good part of the blame might, perhaps, be placed on the shoulders of cooks, the refined art of cookery, and numerous cookery books. To show how much the latter may have to answer for, one need only refer to p. 184 of a noted Indian cookery book, entitled "Culinary Jottings for Madras," by Wyvern. That part of India is hot even in November, and therefore there is no excuse for extra food on account of a low atmospheric temperature. The reader will pardon my giving the details of a menu for luncheon from this book, because it is rather phenomenal, and may give us some hint of why people sometimes make themselves ill on a meat diet. The climate being hot at all times in Madras, there is not much opportunity for frequent or sustained muscular exercise. He says: "Having discussed your oysters, some half-dozen

[1] I know that now the term vegetarian has been extended to eaters of eggs, milk, cheese, etc. The objection to eating meat becomes absurd in case of the egg. An egg, one day, may be eaten by vegetarians, but the same egg, eighteen or twenty days after, when it has turned into a chicken, should not be eaten!

dishes or so may follow, carefully contrasted one with another, and by no means dinner-like in their order, thus: an anti-pasto of *hors d'œuvres*; seerfish fricasseed with cucumber; kidneys à la brochette, with potato chips; little ballotines of quail in jelly, iced; fillets of beef piqués, with horse-radish sauce, or crème d'anchois; maccaroni à l' Italienne; cold galantine of hen-turkey, or capon, delicately sliced, and handed round; a Ceylon prawn curry, swimming in creamy gravy, with pieces of vegetable-marrow associated with it; a *chaud froid* of snipes; fruits in cream; liqueur. To do the author justice, he adds: "This menu is obviously susceptible of the pruning-knife (one might say the saw and the hatchet also). Two dishes could easily be cut out, and cheese with 'green butter,' and hors d'œuvres again might follow the sweet dish!" I suppose the hors d'œuvres again are intended to re-excite the appetite for dinner! The very mention of that "Ceylon prawn curry, swimming in creamy gravy," for the climate of Madras, makes one feel the fat expanding under one's skin! The cook's mission appears to be to coax the appetite, and to "carefully contrast one dish with another," so as to leave one no chance of evasion. As to the hygienic part, that's the doctor's business. The cook seems to think that if you are made ill by eating too much, so much the worse for you!

We all walk erect on two legs, and, within certain limits, we all have pretty much the same outward features; but does anyone for a moment reflect that, in spite of all this outward resemblance, there are among men and women, not only *varieties*, but what would amount to *species*, and *genera?* So different is one from another in constitution, habits, ancestral derivations, and conditions of life, that to make the same rule for all mankind, in a lump, is like making the same rule for the elephant, the pig, the horse, and the donkey, because we happen to call them *Pachydermata*. I was once told by a person: "I listen to the doctor's advice and instructions with civility and humility, but when he goes away, I do what I think suits me best." How different are the circumstances of two persons. One his own master, in a cool climate, can travel about, change scene, amuse himself, and follow up his own tastes. The other, an official in a small station in India, with a large family in England, an earnest and conscientious man, who goes to his office at ten a.m. steadily, and sits in the midst of bad odours, with the doors open letting in the hot air, listening patiently to innumerable "lies" day after day, on which he is to give judgment, till four or five o'clock in the evening, the only relaxation after office hours being perhaps a game of tennis, not because he feels much inclined for it, but because, like physic, he thinks it is good for him. He returns home for dinner with a friend or two, *the only amusement he has* in the twenty-four hours, and the only one he has to look to till he either obtains furlough or privilege leave! Under such circumstances, a person whose dinner may be his only amusement, might think that life is not worth having if, in addition to its monotony, and daily discomforts, and helplessness, he is to omit meat and wine from his meals. That many eat more than is good for them, especially when the age of muscular activity has been passed, I have little doubt. At the same time it is one of the most difficult feats of the will to refrain from taking one bit more when one's appetite is still on the alert. When an act is of vital importance, such as feeding, it is always accompanied by a feeling of pleasure; other acts of still higher importance are accompanied with even more exquisite sensations. If this were not so, the act might be considered a bore, and might be omitted with disadvantage to the individual and the race. Is gout however solely the result of over-feeding, and not largely the result of worry, anxiety, and hard mental labour? Alfieri almost starved himself, and continued violent horse exercise to the last, because he was told gout was the result of eating two much and taking no exercise. He had hard mental work in writing his tragedies, and anxiety about their success; perhaps he may have also had domestic worry. The gout tormented him to the last! A simple rule would be: when you are taking active exercise, and the weather is cold, let your appetite have its run. When you are sedentary, and the weather is warm, draw in the reins *especially when your girdle warns you* that your "intake" is more than your "output."

A friend in India gave me some facts regarding his experiments in vegetarianism in 1882. He had given up alcohol for nearly eighteen months before he made this experiment. He thought that it meant living strictly on *vegetables;* so at first he took no milk, eggs, or cheese. He says: "I soon found that I could not digest a vegetable diet in this sense (of vegetables only), and the indigestion I suffered I still feel some of the effects of. At least my digestion has not been so good as it was before I made the experiment. Hard things, eaten slowly and well masticated, such as cocoa nuts, I found very digestible, while delicately cooked cauliflower (as he ate it quickly and it did not require much mastication), was often very difficult to digest. I found I could not take tea on a vegetable diet, as it prevented sleep at night." Afterwards it appears he continued the experiment with the addition of milk, eggs, and cheese. He says he then had easy work, and this diet made no dfference in his power of work or of playing tennis, etc. He says the sole reason for giving it up was that, as he did not devise the dishes himself (although he had a good cook), he found the diet monotonous, and was not cheerful over it. Well, the fact is, he did not like it, in spite of the eggs, milk, and cheese, and he had to make his meals apart from his family to some extent, as they ate meat, and he felt unsociable. He did not feel better or more vigorous on returning to a mixed diet, that is with meat.

There are some persons who, either from habit, or from preoccupied or agitated mind, or from dining too much alone, cannot eat slowly, and unless they keep their attention on each mouthful, during the process of mastication, it is swallowed quickly and *involuntarily*. Now considering that many have not even time to read a paper, and only do so *during their meals*, it is not very easy to see how they can fix their whole attention on the act of mastication and deglutition. To these I should say, a strictly vegetable diet would certainly mean mischief.

Alcohol or Water?—This has been a vexed question now for a long time. As long as the subject remained in the sphere of discussion only, and cases of misery from drunkenness brought to light, and endeavours were made to remedy them, the effort was commendable. But when associations are set up, with the view of putting a stop to the use of liquor, not only among those who abuse it, but also among those who don't, the whole matter becomes *un affare serio*.

Have those who urge *total* abstinence ever asked themselves what might happen if all the people of Great Britain became abstainers? Let us take a brief and rough sketch of some of the nations of the world, and classify them *alcoholically*.

1. We have the Americans, the Britons, the Germans, and the Russians—all four nations large consumers of alcohol—with a population bursting with energy, indefatigable with a restlessness, both mental and corporeal, and always on the look out for further conquests, both in the mental and physical worlds.

2. Then we have Spain, France, Italy, Greece—all consumers of alcohol moderately, but all more or less fond of the "*Dolce far niente*" life, or in other words the majority of these people would appear to think that life is hardly worth having, if you have to bother yourself too much about it. The French probably consume more alcohol than the other three, and may be for that reason more energetic.

3. We finally have the Turks, and all the Mohammedan world, and the Indians. The majority of the former are total abstainers, and the latter so to a great extent. Well, not many would think that the position of the Turks, and other Mahommedan people, or that of the Indians, is to be envied. Turkey can do nothing; has been cut up over and over again; is only kept up by other powers, and as a nation, appears to be in a state of intellectual stagnation. India is only being spurred on by the British. Left alone, it would fall a prey to some energetic alcohol drinking power.

I read somewhere that a stranger observed a Turk squatted on the edge of a low wall in a street. He was smoking his pipe, and appeared to be engaged in some deep thought. The narrator went up to the Turk, and asked him what he was thinking of. The latter looked up with astonishment, and said "Nothing!"—as if he meant "What a silly question to put!" Well, this is not a bad illustration of what is stated to be the life of the Turk. He appears to have no intellectual life whatever, unless it be, perhaps, of warped notions; and, considering the advantages he commenced his career with in Europe, his collapse must have some very deep-seated, and continued cause. In Fyzabad, there is a *Ghât* in the "Guptar Park." I was one evening standing on the steps of this Ghât, looking at the setting sun, beyond the wide expanse of the river "Ghâgra." The brahmin in charge of the Ghât came up, and I began to talk to him about the setting sun. Then I said, "This is a very nice place, what do you do all day long? He replied, "*Nahàte, pooja karte, aur khana khàte—ye tin kâm!*" I bathe, I say my prayers, and I cook and eat my dinner—*Voila tout!* This is another type of a total abstainer. Neither the Turk, nor the Indian, appears to have any intellectual life whatever, and the worst of it is, neither the one nor the other seems to *want* it. With some exceptions, both are of an indolent nature, and their indolence may be owing to the want of alcohol. If any intellectual life is dawning upon them, it is probably among those who either openly or "quietly," now and then, take a drop, for I certainly would not call any Mohammedan or Hindoo *total abstainer*, simply because he *said so*.

The majority of both these people may think that "enough for the day is the evil thereof." This would be pleasant enough if it did not entail having some other nation's yoke on one's neck. Now does this apathy come from the want of alcohol, acting through generations, or not? That's what one would like to know; and if all Britons became total abstainers, would they eventually become as apathetic as the Turks and Indians, and would they then think that, if life requires all this bother, it is not worth having, and would patiently submit to be conquered by any energetic alcohol consuming nation, that would think that trouble worth taking. The question may be an *urgent* one. Have the proportion of total abstainers and vegetarians *already* leavened the British nation, to such an extent, as to make them careless of what may happen? This seems a most important subject for a searching inquiry on the part of any Temperance Association. It would be rather a poor consolation for Great Britain to find that, with its beer and roast beef, its energy and intellectual vigour—the talk of the world—had also gone, and that the end would be "it does not matter!"

Some might say that this intellectual apathy does not proceed from want of alcohol, but from climate. I should reply, however, that the northern Turk and the Afghan have not a warm climate, therefore their want of intellectual "go," cannot be due to the effects of a warm climate. Moreover, why are the British in India or anywhere else not intellectually apathetic? They live in the same climate as the Indians. I may then be told that the Turk, although an abstainer, makes the finest soldier in the world, enduring, patient and obedient. I did not say that want of alcohol will also prevent muscular development and the other fine qualities of the Turkish soldier. We have many examples of endurance and obedience, without alcohol, in the animal world. All I mean is that want of intellectual energy, and the absence of a restless spirit, would appear to have some connection with total abstinence, and I contend that it is of importance to know whether, by giving up liquor, we shall bring ourselves, by degrees, to believe that after all leaving things in God's hands is the proper course, and that any effort on our part is of no use.

The teetotalers I have come across have had more or less exaggerated views on religious matters, and it is not improbable that this may be the cause, in a great measure, of the fanaticism of the Mohammedans. I should not though, as I said, put down every Mohammedan as a total abstainer simply because he said so. There are Mohammedans and *Mohammedans*, and not a few who drink, but as a people they are no doubt generally abstainers. If I were asked for a recipe to make a man acquire exaggerated views about religious matters, I should feel inclined to recommend the trial of "stopping his liquor." In Sir W. Muir's "Annals of the Early Caliphates," p. 458, I find, "The interdict against games of chance, and the prohibition of even the moderate use of wine (ordinances in themselves not altogether devoid of merit) have tended to aggravate the moroseness, gloom, and gracelessness of Moslem life in public, resulting from the banishment of the female sex."

Amusement, with something to make one laugh, acts as a tonic to the nervous system, and in the absence of something comical to laugh at, or be amused with, a moderate amount of alcohol, independent of its other useful qualities, appears to open a window in the brain, through which the mind, so to speak, can readily see the comicality of a subject. This effect of alcohol alone—that is of making us cheerful—is of immense value to us. What priceless comfort it is to be able to close the window on the gloomy side of life, and open that on the bright cheerful side. Without this means, a life of competition, worry, disappointment and vexation would be unbearable. If taken in moderation (each according to his own idiosyncrasy) I do not know any other drug which would have the same beneficial effects all round, without leaving any disadvantages behind, to interfere with the renewal of the struggle for life on the morrow.

(*To be continued.*)

FEMORAL OSTEOTOMY FOR THE CORRECTION OF DEFORMITY RESULTING FROM HIP-JOINT DISEASE.[1]

By A. P. Morgan Vance, M.D., Louisville, Ky.

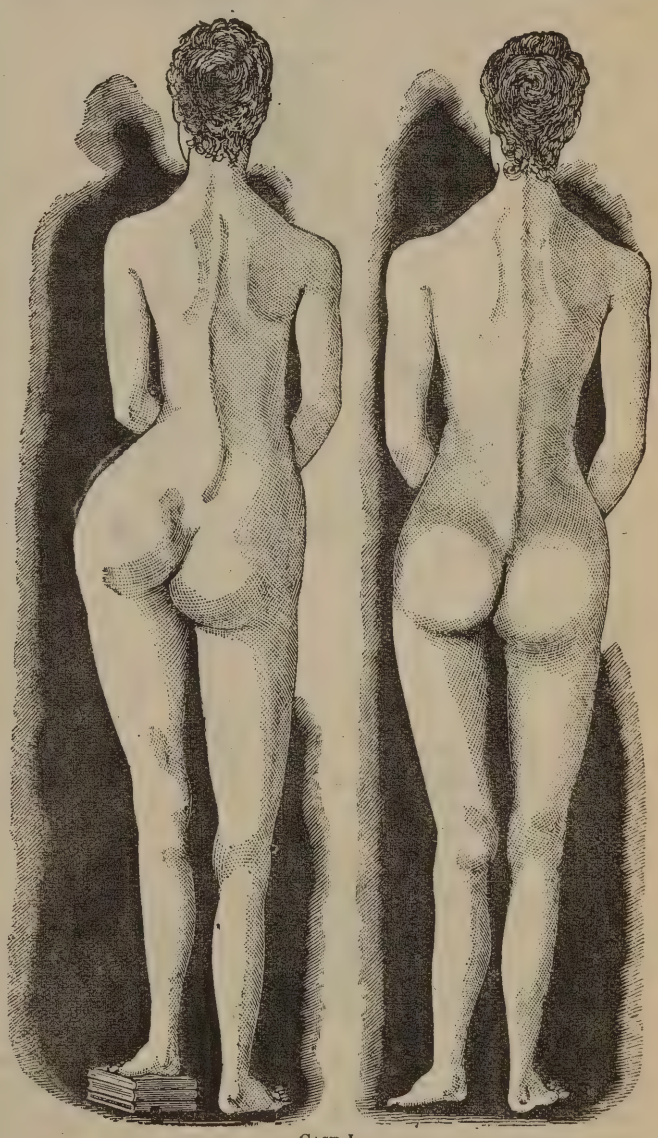
In the part of the country from which I come we have to deal with more of the different deformities resulting from neglected cases of hip- and knee-joint diseases than are met with in the larger cities, where greater attention has been given to the treatment of this class of troubles in the earlier stages. It has been my fortune to treat a number of these unfortunates, and it is to relate my experience in a clinical way that I am here to-day. There are one or two points I wish to emphasize. While in New York, a little over a year ago, I spoke to a distinguished surgical friend concerning subcutaneous osteotomy, and was astonished at his saying he had never mustered sufficient courage to do this operation; that he always made a large open wound, so that he could see what he was doing. This was a new idea to me, as I could not see any reason for the additional work. I have broken a number of bones subcutaneously, and have never had a feeling of any doubt of exactly what was being done, and have never had a single mishap, every case in its progress being practically a simple fracture. I freely confess that I will break a man's femur subcutaneously with as little misgiving, as to the outcome, as I would divide his tendo-Achilles.

The procedure will be described during the relation of some eight cases of femoral osteotomy, all the patients having practically reached adult life, the justifiability of the operation having been proved by the results. Of the eight cases to be reported five were operated upon for deformity the result of hip disease, and the remaining three for deformity following disease at the knee. The latter cases have proved to me how much better it is to correct, by a bone section, deformity existing at the knee along with slight motion and the patella fixed, than it is to interfere with the formerly diseased joint in an effort to better the condition. Cases No. 2 and 6 have been reported before in the *New York Medical Journal*, but, to complete a series, I will refer to them again as illustrating the advantage of subcutaneous osteotomy.

Case 1. *Subtrochanteric Osteotomy (?) in a Young Woman æt. Sixteen.*—Carrie H—— came under my observation first in the spring of 1883, giving this history:—Two years before she had been attacked with acute pain and evidences of inflammation about the left hip. She was under the care of skilful surgeons in the town where she lived, in a north-western territory, who repeatedly aspirated a large abscess which formed, the sac being located on the outer side of the thigh. The abscess finally healed, and, under tonic and constructives in bed for nearly a year, with weight and pulley attached to the limb, and sand-bags also used to keep the limb in the best position and the joint at rest. Notwithstanding their extreme care, the hip became stiff, as is often the case in extreme adduction: so, when she began walking, there was a practical shortening of four inches and a half or five inches, and, of course, a very marked lateral curvature of spine and obliquity of pelvis.

[1] Read before the American Orthopædic Association at its second annual meeting. Published by consent of Dr. Vance.

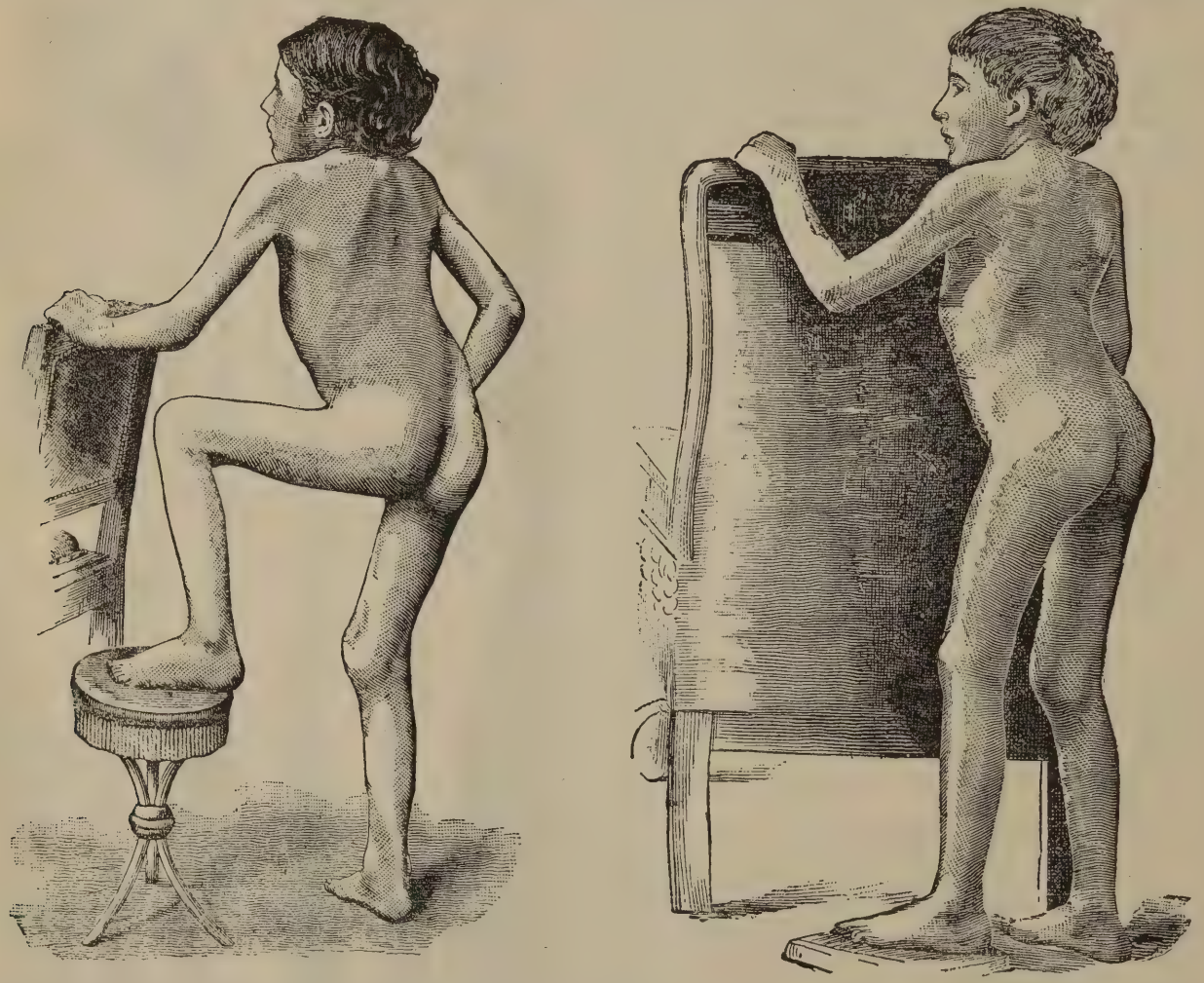
For the relief of this deformity the parents brought their daughter East, and, after a thorough examination, I advised non-interference, but told them, as they were going further east to New York and Boston, to see surgeons at each place. They did see Dr. Sayre and some Boston surgeon, who agreed with me that there was bony ankylosis at the hip, and the result was too good to be interfered with. But, after three years had passed and the girl had reached womanhood, the deformities grieved the parents very much, and, after communicating with me, who had hinted at bone-breaking



Case I.

as the only chance of correction, they came East again, and on April 16th, 1886, the bone section (*c*) below the trochanter was done as follows: A firm, well-padded block of marble was pressed against the inner side of the thigh as high up as the perinæum would allow. A very sharp, narrow chisel was pushed through the soft parts, the blade in the axis of the limb, the skin at the same time being drawn forward. When the bone was reached, the chisel, being

turned, was driven through until the hard substance on the opposite side was reached; this was partially divided; the chisel was then slightly withdrawn and directed posteriorly and then anteriorly. Without withdrawing the instrument, an effort was made to complete the fracture by using the block for the fulcrum and the femur as a lever, an assistant fixing the pelvis firmly to the table, the patient being on the right side. This failed, even after great force had been applied, for the reason that the adduction was so great the fulcrum could not be placed opposite the weakened point, but below. Further work with the chisel was then done. she was allowed to walk without crutches, the limb being restored to a position which let the foot reach the floor; at the same time the pelvis was horizontal. After she had walked very well for a week, using a cane when on the street, the mother noticed a tendency toward the old position when she was tired. Upon examination, to our utter astonishment, we found considerable motion at the hip joint on this side, which allowed the limb, from prolonged habit, to drop into adduction. The question arises, Were we deceived in thinking the bone was broken, or was the marked deformity corrected entirely by the renewal of



Case 2.

The instrument became very firmly fixed, a loud snap being produced when it was moved. All present believed it had been broken, but, on withdrawing it, to our relief all of it appeared. The effort to fracture was repeated, and the bone gave toward further adduction; then very easily, when force was applied, toward abduction. The deformity was completely overcome, and the limb was encased in plaster-of-Paris. Not a bad symptom arose during the after-treatment. She was able to be up in a rolling-chair by the fourteenth day and walked on crutches by the eighteenth, when a lighter tar board splint, reaching only to the knee, was substituted for the heavy plaster-of-Paris. At the end of the sixth week motion of what was undoubtedly a fibrous ankylosis? I lean to the latter opinion, not believing that the deformity could be so easily overcome with a fracture. The fact that the chisel was withdrawn destroyed my guide to what took place at the site of its introduction. As the result is, the patient is much better off, being relieved of the short limb and lateral curvature, with a movable instead of a stiff hip.

CASE 2.—June 11th, 1884, H. C——, æt. nine years, the subject of spinal caries and true hip disease, both long since spontaneously cured, the hip being ankylosed by bone at an angle of less than 90° with the pelvis, the disease in high dorsal region, which took up most of the power

of compensation in the lumbar spine. This boy could stand with difficulty by holding on to his left knee and right hip, but could not walk, his mode of locomotion being on all-fours. The patient was an inmate of the Methodist Orphan's Home, and ready consent to the operation was obtained; and, on the date mentioned, it was performed in the presence of the visiting physician of the institution and several other professional friends. The patient was anæsthetized by Dr. Senteny, and the operation was performed just as in Case 1, except that tenotomy of the muscles going to the anterior superior spinous process of the ilium was in addition performed when, without much difficulty, the limb was brought down and fixed in plaster of Paris, 90° of deformity being overcome. The wounds were dressed with compresses of absorbent cotton, and the case was treated as one of simple fracture, going on to conclusion without a bad symptom, the boy being able to walk at the end of five weeks. He walks any distance without difficulty, using an elevated shoe to compensate for about an inch and a half shortening of the affected limb.

April 3rd, 1881.—This boy is seen and examined. He has discarded the high shoe and can walk remarkably well. He has developed in a generally way very much, having attended school regularly since the operation, four years ago, and takes part in the different sports of the other boys without any difficulty with his limb.

Case 3.—April 6th, 1888, Nick M——, æt. fourteen years and a half, from near Versailles, Ky. A case of old hip disease which had been cured for six or seven years in malposition. The left thigh was flexed to about 90° with the pelvis and adducted very much, making this limb practically four inches and a half short, including an inch real shortening from a pathological dislocation. There was very slight motion between the femur and the pelvis. The boy walked by aid of a cane with marked limp, and became very tired when he undertook to go any distance. There had been an abscess, and a deep cicatrix was present below the trochanter. Osteotomy was performed just as in the preceding cases, and tenotomies were done of all the muscles resisting abduction and extension. The limb was placed in a plaster-of-Paris splint in a position of abduction, so that the inch and a half real shortening would be compensated for by the obliquity of the pelvis resulting when the limb would become vertical in walking. There was no mishap during the after-treatment, and the patient returned to his home at the end of four weeks with a protective splint of leather, which was worn for a week longer and then discarded.

September 7th, 1888.—Boy examined again. He walks with remarkable ease and comparatively little limp. When standing, he rests his weight on this limb. Has three quarters of an inch added to his shoe. The motion at the joint has allowed the abduction to be almost overcome, and the pelvis is nearly horizontal. The whole limb has been greatly developed in the five months since the operation, and the patient is in much better general condition. This is the first case of deformity of the hip with motion remaining that I have corrected by osteotomy. As I stated in the opening of this paper, I should prefer this to interfering with the formerly diseased joint.

Case 4.—Jennie H——, æt. fifteen years, came under observation on July 1st, 1885, in the female surgical ward of Louisville City Hospital, where she had been operated upon for a supposed fistula in ano. Soon after this I was asked by Dr. Douglas Morton to treat the case for a deformity the result of an old hip disease. The left limb was found greatly deformed, the girl being unable to get the foot to the ground. The femur was flexed to angle of 90° with the pelvis and completely adducted. There were a number of old scars about the trochanteric region, and the examination under chloroform proved the joint to be ankylosed by bone. There was a sinus along the left side of the rectum, and the ordinary operation by incision had been done without any good resulting. On careful examination, it was discovered that the source of the discharge was an old fistulous tract through the buttock towards the joint site. I considered there must be dead bone at the bottom of this, though none was discovered. By Nélation's test the thigh was estimated to be an inch and half short. I determined to correct the angle of deformity despite the existence of the discharging sinus, as the patient was in excellent general condition, and I felt sure I could break the femur below the trochanter without disturbing the old joint. On July 20th, 1885, in the presence of several of the attending staff, I did the operation just as described in Case 1, except the fulcrum, instead of being placed opposite the point of entrance of the chisel, on account of the extreme adduction, had to be placed posteriorly in the region of the gluteal fold, and consequently the difficulty of applying force was greater and the fracture harder to complete. This was done, however, without very great trouble, and the limb brought into the best position for future use, after tenotomy of all the muscles in the adductor region which showed any resistance; also the muscles going to the anterior superior spinous process of the ilium which became tense when extension was made. The limb was then fixed in plaster-of-Paris from the toe to the umbilicus. There was no bad symptom, and the patient returned to her home on the fourteenth day, after the application of a lighter splint, which was removed two weeks later, and moderate use of the limb commenced July 30th, 1888. The patient has rounded off into complete womanhood; gives a history of having had no trouble with the limb; can walk any distance without difficulty. The sinus still discharges watery fluid in small quantities. She wears an elevated shoe of an inch and a half; little or no limp. I advised her to have the sinus laid open and scraped before getting married, which is contemplated.

Case 5.—June 7th, 1886. Miss T. H——, tailoress, æt. thirty-two. This woman had been the subject of true hip disease when eight years of age. At the same time there was disease of the right wrist and the shoulder of the same side, small pieces of bone being exfoliated. The right hip was the one affected. It was about the worst-looking deformity of the kind I had ever seen. The femur was flexed to the last degree, and completely abducted; the knee could not be extended beyond a right angle, adaptation of the flexors having taken place during the twenty-two years. She had walked on a popliteal crutch. The pelvis was obliqued to the right, and the spine greatly curved. The patient had been an eye-sore to me for years on the streets, and finally was referred to me by Mr. Mathews, an artificial-limb maker, to whom she had applied for the repair of her crutch. On the above-mentioned date I divided the right femur below the trochanter and restored the limb to a position to be used to the best advantage under all the circumstances in walking after the fashion of other people. Both hamstrings were divided, and the muscles attached to the anterior superior spinous process of the ilium also, great force being neces-

sary to bring the limb down; the skin on the anterior aspect of the thigh looked glazed, it was put so much on the stretch. A plaster splint was applied, as in the other cases. Convalescence was uninterrupted so far as the firm union of the bone was concerned, but there was a tendency to swelling of the leg, together with anæsthesia of the parts supplied by the anterior crural nerve for six months or more.

Examined September 7th, 1888. She is in better health than ever before, and can walk long distances without using a cane. Has no trouble of any kind with the limb. She wore for awhile a shoe on the right foot, of an inch elevation, against my advice. She now wears an ordinary shoe. The limb was left in sufficient abduction to compensate for the actual shortening and part of the obliquity of the pelvis.

CASE 6.—A. B——, æt. seventeen years, came under observation in November, 1884, for treatment. There were the history and the evidence locally of an old inflammation of the left knee-joint, dating back to early childhood. The limb was greatly deformed, and he walked with painful inconvenience. The knee was found with very little motion, flexed at an angle of 135°, the leg being very much rotated in its relationship to the thigh; there was combined with this marked genu valgum. The compensating deformity of the foot was quite great, and walking painful. The procedure of dividing the bone was exactly as in the preceding cases, the final steps being much more difficult because of the limited motion at the knee, and the fear that it might be further damaged if too much strained by the use of the leg as a lever; but I succeeded by having the upper part of the bone fixed by a very strong assistant, then, grasping the condyles in both hands, with the application of sudden force downwards, using the same fulcrum as before, the fracture was completed, and the deformity overcome, after tenotomy of the external hamstring tendon. The limb was dressed in plaster, and went on to firm union as a simple fracture. The young man now walks anywhere without difficulty, and is the possessor, comparatively speaking, of a comely limb, a compensation of an inch and a half being added to the shoe.

CASE 7.—Mr. N——, clergymen, æt. thirty-two, had been the subject of inflammation of the right knee when a child, resulting in a permanent deformity, very much like that described in Case 6—flexion, combined with rotation of the leg on the thigh, and knock-knee. He came, he said, to consult me in regard to the possibility of having the deformity overcome, as it was particularly awkard in a public speaker. I proposed bone-breaking as a possible remedy, and after some dissension he consented. His consent was more difficult to obtain because he had consulted with an eminent surgeon in Virginia, who had warned him against letting anybody meddle with his knee. On May 10th, 1886, the operation was commenced just as in the preceding case, the bone being completely sectioned, however, without the use of manual force. Hardly had two strokes of the mallet being given before a complete fracture was produced. I anticipated a retardation in the process of repair, but no trouble was experienced, and in the usual time he was able to use the limb. I saw him on the street in April last, and he walked with little limp, and if it had not been for this, one would not notice anything the matter with him. While he is standing there is no reason to suppose him at all lame. His limb gives him no trouble.

CASE 8.—April 15th, 1888, John S——, æt. fifteen, telegraph operator, Hopkinsville, Ky. The deformity, a repetition of that in the two preceding cases, was the result of an inflammation of the right knee of only three years' standing. The procedure was carried out as in Cases 6 and 7 with the same result. He returned to his home on the sixteenth day wearing a posterior leather splint. There has not been sufficient time passed since the operation to determine the result in this case, but I expect just as useful a limb as in the other cases.

Cases 6, 7, and 8 illustrate how much good can be done by a bone section in a class of cases that, in my hands, have been very unsatisfactorily treated in any other way unless excision is done. You have a knee in which the pattella is fixed with flexion, rotation of the leg on thigh, and genu valgum, without the saving clause of bony ankylosis of the tibia to femur, but with limited motion, with no control of that motion. The history of these patients as to the utility of the affected limbs is always the same—constantly recurring pain and disabling at the least mis-step or stumbling of the toe. Any movement which puts a strain on the crippled joint brings about the same result, calling for a return to the cane or more often to the crutch. By a bone section and the substitution of an angle above for that at the knee, and at the same time rotating the leg, we place the tibia and fibula in the same axis with the femur, and restore the foot to a position much better suited for walking. By the improved relationship the intermittent strains are prevented and adaptation of the ligamentous structures allowed to take place, a firmer and much better joint being the result.

Special Articles.

REMARKS ON JENNER AND VACCINATION: A STRANGE HISTORY IN MEDICINE.[1]

By H. H. TAYLOR, F.R.C.S.

NEARLY a century has now elapsed since Jenner published his "Inquiry into the Causes and Effects of the Variolæ and Vaccinæ; a Disease known by the name of the Cow-pox." Since that time he has had many opponents, but, with a few exceptions, he has had the entire support of the medical profession. Many men maintain that the truth of his statements are now firmly established and "outside all controversy." But it cannot be denied that there is a feeling gaining ground in the profession that there are many of his statements which require careful investigation. Many honest and disinterested thinkers are ready to admit that the subject is not in a very satisfactory condition; and that the time is not far distant when a thorough and impartial enquiry will become obligatory. Dr. Creighton's last work is anything but reassuring. If the statements which he makes are true, then must medical men seriously reconsider their position. If, on the other hand, they are false, it is time the profession should at once brand them as such, and protest most emphatically againt one of its members publishing statements which are calculated to do much harm. The work is avowedly written for the public, and Dr. Creighton would justify this action by maintaining that the profession turns a deaf ear to all criticism, and dogmatically asserts that the subject is now "outside all controversy." That such is the case no one will deny.

(1 By Charles Creighton, M.D.)

Dr. Creighton has been charged with "undermining Jenner's character." Let us see if he can justify his action.

Dr. Creighton objects to Jenner having, on his title page of the "Inquiry," styled cow-pox "variolæ vaccinæ." Now, as this work has been characterised as a "model of scientific investigation," it is only reasonable to expect that Jenner will produce evidence in it which will render that statement practically a demonstrated fact: otherwise he had no right to call cow-pox variolæ vaccinæ; still less to head his "Inquiry" thus. The only reasons we can find for this piece of fiction (Dr. Creighton characterises it as a "master-stroke of boldness and cunning") are, first, certain stories of country people that cow-pox protected against small-pox; and a few cases in which persons who had had the natural cow-pox were said to be proof against variolous inoculation. The question of how far variolous inoculation is reliable as a test will be fully treated of later on. Secondly, a supposed resemblance between the two diseases. He constantly talks of the value of experiment; yet he himself never made any experiment to see if cows could be inoculated with small-pox; nor did he try to infect them by bringing them into contact with variolated garments. He never relates one single instance in which cow-pox had caused an outbreak of small-pox. "There was no candid or overt attempt in the body of his essay to justify that daring innovation. Most of his readers from that time to this have hardly realised that it was an inoculation at all, for the reason that Jenner adroitly left his title-page to justify itself."

He got sadly mixed up between horse-pox and grease. Grease is a very chronic form of eczema, associated with much thickening of the heels, non-contagious, and bears no resemblance to horse-pox. Yet he dogmatically asserted[1] that cow-pox never arises independently of grease; and to show how much reliance should be placed on his observations, he minutely describes at what period of the disease the virus is most active.[2] In a foot-note he adds, "It is easy to procure pus from old sores [grease lasts for months, and is said by some to be hereditary] on the heels of a horse. I have often inserted it into scratches, made with a lancet, on the sound nipples of cow, and have seen no effects from it than simple inflammation." This last fact would, surely, have set most men a-thinking; but not so Jenner. The amount of scientific thought which he really brought to bear in conducting an experiment may be estimated, when he tells us he seriously endeavoured to produce grease (which he believed to be a specific contagious disease) in a young horse, by keeping it shut up and fed on beans!

It may come as a surprise to some people that Jenner could have made such statements, but, perhaps, if I narrate his cuckoo story it will help to explain how it was possible. The following is abstracted from his paper on the "Natural History of the Cuckoo," read before the Royal Society, 13th March, 1787, and published in the *Transactions* for that year. "The nest was placed so near the extremity of a hedge that I could distinctly see what was going forward, and saw the young cuckoo [less than a day out of the shell] in the act of turning out the young hedge-sparrow. The little animal, with the assistance of its rump and wings, contrived to get the bird upon its back, and clambered backwards with it up the side of the nest till it reached the top, where, resting for a moment, it threw off its load with a jerk, and quite disengaged it from the nest. It remained in this situation a short time, feeling about with the extremities of its wings as if to be convinced whether the business was properly executed, and then dropped into the nest again. With these (the extremities of its wings) I have often [how often?] seen it examine, as it were, an egg and nestling before it began its operations; and the nice sensibility which these parts appeared to possess seemed sufficiently to compensate the want of sight, which as yet it was destitute of."

The first impression on reading the above little story is one of amusement, which, however, quickly gives way to a feeling of depression, when it is realized that the paper was written as a scientific communication to the Royal Society; and that Jenner declared he had "often" seen similar crimes committed, when, in fact, "the behaviour of the young cuckoo was, on his own admission, new to him on the 19th of June, 1787, by which time the hatching season was about over for that year, and his paper was sent in and printed before another season." It reminds one of the remarks which the celebrated naturalist made to his friend, when he told him he had seen a marvellous shower of frogs from the sky. "It is fortunate," said he, "that you have seen it, for now I can believe it. If I had seen it myself I should not have believed it."

That cow-pox is variola vaccine is more than doubtful. On the face of it the diseases are so unlike that it would require very weighty evidence to establish their identity. Evidence, which in a scientific enquiry would be accepted as proof, has never yet been produced. The few experiments by which it is said cow-pox has been produced by variolous inoculation will not bear investigation. The French experts, who are no mean authority on this question, ridicule the notion; most of our leading veterinary surgeons do the same. Professor Crookshank, in a letter to the *Lancet* (March 9th), challenged anyone to produce one jot of evidence to prove that man ever infects cows, or that cows have ever caused small-pox in man. Up to the present time no one has answered him.

When Jenner went up to London, in 1798 to push forward his discovery, he took some cow-pox lymph with him, and gave a specimen to Mr. Clive, Surgeon to St. Thomas's Hospital. Clive having heard what severe and protracted ulceration Jenner's lymph caused,[1] intended to use it as an issue over a boys' diseased hip joint. He wrote to Jenner,[2]—"The inflammation arising from the insertion of the virus extended to about four inches diameter, and then gradually subsided without having been attended with pain or other inconvenience. The ulcer was not large enough to contain a pea, therefore I have not converted it into an issue as I intended." Jenner reproduced this letter as a testimonial in his "Further Observations" (p. 128), but he omitted the sentence commencing "The ulcer," and inserted instead "There were no eruptions." His reasons for doing this are obvious. In his hands, cow-poxing had caused such dreadful ulcerations, that he had almost been forced to abandon his discovery, as he did not like the sound of the word "ulcer." Moreover, Woodville had discovered an outbreak of cow-pox in London, and, by selecting the lymph early, before ulceration had advanced, had obtained a much purer strain than Jenner, and one which did not cause such unpleasant

[1] "Inquiry," ed. 1800, p. 44. [2] *Ibid.* p. 45.

[1] "Further Observations," Ed. 1880, p. 135.
[2] Baron's *Life of Jenner*, i., 152.

ulceration. He was, therefore, somewhat eclipsing Jenner, but, as he carried on his experiments at the Inoculation Hospital, many of his patients were brought into contact with, and contracted small-pox. The small-pox eruption which followed was, quite unfairly, attributed to his vaccine lymph. In proof of this, Jenner sent some of Woodville's lymph into the country, and found it so satisfactory, neither causing eruptions nor bad ulcerations, that he quietly distributed it as Jenner's lymph, at the same time not omitting to disparage Woodville's own stock.

What should we say of a man who, reproduced a letter, and quietly altered it to favour his own case? Had Jenner also forgotten the cuckoo tale when he wrote to Ingenhousz: "The truth, believe me, Sir, in this and every other physiological investigation which has occupied my attention, has ever been the object which I have endeavoured to hold in view."[1]

Now most people would expect that a scientific and honest worker, when investigating a question of so much importance, yet of such great difficulty, would court criticism, and when facts adverse to his theory were fairly brought under his notice, would give them as great a prominence in his publication as his own observations. Let us see how Jenner acted.

Dr. John Sims, an eminent man of the day, brought the case of a Mr. Jacobs, of Bristol, forward. He had twice had cow-pox and afterwards twice contracted the small-pox. Jenner called him a "snarling fellow," and accused him of "harsh and unjustifiable language." Percival, of Manchester, wrote to Jenner: "But a large induction is yet necessary to evince that the virus of variolæ vaccinæ renders the person who has been effected with it secure during the whole of life from the infection of small-pox."

Dr. Ingenhousz also brought to his notice an indubitable case where a cowman was infected with cow-pox, but afterwards being inoculated with small-pox, he took the disease. "A great many small-pox marks came out, and he communicated the infection to his father, who died of it."[2] Jenner, however, explained away this case, and similar ones,[3] by affirming that the disease was "spurious cow-pox!" Dr. John Fawsett,[4] of Horncastle, and Dr. John Stevenson,[6] of Kegworth, narrated equally bad results. Mr. Ward, surgeon to the Manchester Infirmary, "congratulated mankind" on the success of cow-pox, which was as follows: "Only one of his cases resisted variolation after being cow-poxed—namely, case viii. Three cases took small-pox in the clearest way after being cow-poxed (Nos. i., ii., and iv.); four cases resisted vaccination, and likewise resisted variolation; one case resisted vaccination and received the subsequent variolous infection; two cases were apparently variolated in the first instance by misadventure." Many more such cases were brought to his notice, and he began to be extremely worried for an explanation. At last a brilliant idea occurred to him. The vaccine lymph was, of course, "spurious."[6] "All cavilling, therefore, on the mere report of those who tell us they have had this distemper, and are afterwards susceptible of small-pox," can now be explained away by denominating them "spurious." He promised to depict real cow-pox, but never did so. And that lucky hit of Jenner's is still found useful; only, instead of saying the lymph is spurious, vaccinators state that all cases of failure are due to imperfect vaccination, or to bad marks, and so all "cavilling" must cease. We now come to what is the most difficult and most delicate part of the whole subject—viz., how far Jenner's attempts to variolate patients who had been cow-poxed can be relied on as proof that they were protected. Dr. Creighton maintains that effective variolous matter was never used by Jenner at all.

To appreciate the real significance of this statement, it is absolutely necessary to know what variolation really amounted to at the end of the eighteenth century; and consequently Dr. Creighton has gone somewhat fully into this question. His conclusions are, briefly, that by careful selection, only very slight local effect was produced, and in most cases practically no fever or anything else that could even confine a patient to the house. Now it is beyond dispute that in most of the cases that were variolated to test vaccination, some local pustulation did occur. If the table which Ceely gives,[1] to prove that his subjects were protected by vaccination from being variolated, be carefully scrutinised, it is at once apparent that such results were obtained as Dr. Dimsdale boasted he could produce in unvaccinated persons by his method of variolous inoculation. To fully appreciate, however, the weight of evidence which Dr. Creighton brings forward in support of his case, it is necessary to carefully read his book, and also to refer to the works bearing on this part of the subject, which were written about the time when Jenner was alive. In short, he entirely discredits Gatti and Sutton's "new method" as a test of protection. He says: "We come, then, to this extraordinary result, that the very same degree of small-pox infection—namely, the local pustule alone, or the local pustule followed by an abortive fever and a few abortive pimples, which had come to be reckoned a sufficient manifestation of the disease when inoculation was an end in itself, was now reckoned an insufficient manifestation, and, in fact, an evidence that the infection had not taken at all, when inoculation was done after cow-poxing, and with a view to test the alleged antagonistic power of the latter against small-pox."

There can be no doubt that Jenner recommended and practised the Suttonian method. On several occasions he urges that the variolous matter should be carefully selected, and the inoculation "managed so as to prove perfectly decisive."[2] Further, "A very respectable friend of mine, Dr. Hardwicke, of Sudbury, in this county, inoculated great numbers of patients previous to the introduction of the more modern method of Sutton, and with such success, that a fatal instance occurred as rarely as since that method has been adopted. It was the doctor's practice to make as slight an incision as possible *upon* the skin, and there lodge a thread saturated with the variolous matter. . . . . Is it not probable then that the success of the modern practice may depend more upon the method of invariably depositing the virus in or upon the skin, than on the subsequent treatment of the disease?" Also "In some of the preceding cases I have noticed the attention that was paid to the state of the variolous matter, previous to the experiment of inserting it into the arms of those who had gone through the cow-pox. This I conceived to be of the greatest importance in conducting these experiments."[3]

[1] Baron's *Life of Jenner*, i., p. 284. [2] *Ibid.*, i., p. 291.
[3] "Inquiry," p. 51. [4] *Med. and Prov. Jour.*, vi., 117. [5] *Ibid.*, vii., 9.
[6] "Further Observations," p. 74.

[1] *Transactions* of Prov. Med. and Surg. Soc., vol. x., 265.
[2] "Inquiry," p. 54. [3] "Inquiry," p. 50.

Jenner in only very few of his cases gave any description of the variolous inoculation; but he gave sufficient to show that, as in Ceely's cases, the inoculation was as successful as could be expected when Sutton's method was employed. We are now in a position to give Jenner an explanation of the following:—"Yet to repeat my former observation, I cannot account for the uninterrupted success, *or nearly so*, of one practitioner, and the *wretched state* [Italics my own.] of the patients under the care of another, where, in both instances, the general treatment did not differ essentially, without conceiving it to arise from the different modes of inserting the matter for the purpose of producing the disease."[1] Is it not a fair supposition that in the former case the practitioner employed the Suttonian method, and obtained "an uninterrupted success;" in the latter he did not "manage" the inoculation, and so brought his patients into a "wretched state"—*i.e.*, gave them genuine small-pox?

It is impossible to overestimate the importance of this part of the subject. It has been stated "that those persons who had been inoculated with cow-pox were protected from the infection of small-pox. This Jenner proved to demonstration, so that the fact remains outside all controversy, and is not a matter of opinion." Dr. Creighton insists that active variolous lymph was never used by Jenner, so that his vaccinated cases were really never tested. It is beyond dispute that many cow-poxed people who were inoculated with active variolous lymph, and in which the whole experiment was not "managed," readily took small-pox in its natural form.

Such then are, very briefly, some of the charges which Dr. Creighton has deliberately and circumstantially brought against Jenner and vaccination. Everyone must realize the importance of the subject in dispute. If those charges are established the credit of the medical profession is at stake. If they are false they must at once be *proved* to be so. It will not do to treat Dr. Creighton's challenge with silent contempt, simple denial, or the oft-repeated assertion that any investigation is superfluous, as the question is "outside all controversy." Be it remembered that the number of Boards of Guardians who refuse to enforce vaccination is on the increase. The Local Government Board remain inactive. Why? Let them answer Dr. Creighton's challenge: "I appeal to facts that are as well authenticated as any facts can be, and I invite the most rigid scrutiny of my use of them, or of my reasoning from them. I deprecate no criticism, but I warn the apologists of the Jennerian doctrine that any attempt to wrap themselves in a mantle of orthodoxy will be a grave dereliction of that duty which the profession owes to the public."

HEALTH RESORTS OF THE WORLD.

XXXI.—THE NEW FOREST.

By Alfred J. H. Crespi, of Wimborne.

Everyone has heard of the New Forest, and knows that the pitiless Conqueror depopulated the southern districts of Hampshire to make himself a great forest, where he and his sons could hunt, but alas! for the truth of this telling and pathetic story, a glance at the soil shows that it never could have carried a large population, so that the tale has lost nothing in the telling. Everyone, too, has heard how the Conqueror's fierce son—the Red King—on the eve of an expedition to France, rode down from Winchester, eighteen or nineteen miles, to Canterton Glen, a spot henceforth memorable in history, where, struck by an arrow in the breast, he died. Perhaps some have wondered how his death came about, whether his companion, Sir Walter Tyrrel, shot him purposely, as Walter Savage Lander tried to prove, or whether the French Baron accidentally killed him, or whether, as a dark tradition whispered, some Saxon churl, dispossessed of his hut or lands, chancing to pass by, shot the Red King, and brought his life of infamy to an end. Everyone also knows that the New Forest was fatal to three members of the Conqueror's family. There, in 1081, Richard, his second son, met his death. There died, accidentally shot by an arrow, in May, 1100, another Richard, son of Duke Robert, and there, on the 2nd of August of the same year, the Red King perished, to the grief of few.

The New Forest is that portion of Hants bounded by Southampton Water on the east and by the Avon on the west, with the sea to the south, and a line from North Charford on the west to Wade and Owerbridge on the east. In Domesday Book the New Forest was said to have seventeen tenants in chief, and seventeen under tenants, the latter corresponding to modern copy-holders; eighty-seven bordani, or cottagers—that is, people holding a bord for which they gave rent or service to the lord; sixty-six villaini, and two hundred and thirty-two serfs. The total area of the Forest is 91,000 acres, of which private owners hold 26,000 acres, while the Crown is absolute lord of 2,000, and to the remaining 63,000 it has, in common with 850 proprietors, certain ill-defined claims. About 5,000 acres are covered with ancient and well-grown timber; 10,000 with timber nearly two centuries old, and as much more with young plantations, while many thousands of acres are barren wastes and moor, usually dreary enough and swampy, though at certain seasons resplendent with flaming gorse and delicately tinted heath in full flower.

In 1670, only 5,000 acres, belonging to private individuals, had been enclosed, while in 1783, 24,797 had been appropriated or enclosed, besides 901 acres of encroachments, and 625 of Crown copyhold. As for the timber, in 1608 there were 123,927 trees fit for cutting down, and these with dotard and decayed trees, represented a total of 315,477 loads of wood. This in 1783, had been reduced by the peculation of the keepers, and the neglect of the verderers, to 20,830 loads. Deer were plentiful in the Forest for many centuries, but though large sums were paid by the Crown for hay, they also seem to have been shamefully neglected, the keepers and the poachers thinning them mercilessly; while as many as 300 died, in one Forest walk, from starvation, in the severe winter of 1787. They were finally cleared off in 1851, the Crown taking in lieu of feeding them, the right of planting 10,000 additional acres.

There are several ways of seeing the neighbourhood to advantage: the best perhaps is to take rooms at Brockenhurst, or at Lyndhurst, in the very heart of the Forest; from both places an active walker could penetrate into nearly every corner. Or a visitor could stay at Romsey, ten miles from Lyndhurst, and fourteen from Brockenhurst. This I have twice done, and in the bright, sunny and dry weather of August or September, long excursions can be made, and the Forest can be thoroughly explored. I passed September, 1875, and July, 1881, at Romsey, and found it a most charming residence, with abundant railway facilities—and its nearness to Hursley, Salisbury, and Southampton, makes

[1] "Inquiry," p. 54.

it convenient. In all these places there is no dearth of accommodation; Romsey is only sixteen miles from Salisbury, ten miles from Winchester, and ten from the famous Church of St. Cross, and, moreover, has a grand and perfect Norman Abbey of noble proportions and in magnificent preservation. Lyndhurst is the Capital of the Forest, and one of the best-situated woodland towns in England; its superb modern church, completed twenty-five years ago, has a remarkable fresco by Sir F. Leighton. Ringwood, at whose Grammar School Stillingfleet was educated, is eleven miles from Rufus's Stone, and close to Ellingham, the grave of Alicia Lisle; though more distant, it possesses some advantages, as it is easy to get to Bournemouth from it, and to Christchurch Priory Church, and not difficult to reach Swanage, Dorchester, with its ancient camp and Roman Forum, and Weymouth. Wimborne, though further off, is not inconvenient, and cheap return tickets are issued by all trains but one from May to October inclusive, to Lyndhurst Road and Brockenhurst, and the distance to the latter, twenty miles, is covered in little over half an hour. Besides its fine and unique Minster, and Chain Library, Wimborne is near some very perfect camps, the most remarkable of these are Badbury Rings, and the Castle Hill, at Cranborne. Fordingbridge, again, is not bad, while even Lymington brings some parts of the Forest close.

The visitor must depend on out-door life and long excursions for his chief pleasure; the Forest towns not being sufficiently large to satisfy the lover of busy centres of life and activity. In bad weather, rare fortunately from the beginning of May to the end of September, the district is extremely dreary, and the townsman will, I fear, utter many complaints; still, if he visits the Forest for its seclusion and woodland scenery, he can surely dispense for a time with the excitement of cities, and the din of busy populations.

As a rule, the timber in the Forest is not remarkable for its vast size, although the Boldrewood oaks are handsome, and of great bulk, so are many of the beeches near Rufus's Stone. The tree from which the arrow is said to have glanced that killed the Red King, is long dead, but its site is marked by a stone, inclosed in an ugly triangular case, bearing on its three sides the following inscription:—

"Here stood the oak tree on which an arrow, shot by Sir Walter Tyrrell, glanced and struck King William II., surnamed Rufus, on the breast, of which he instantly died, on the 2nd day of August, 1100. King William II., surnamed Rufus, being slain as before related, was laid in a cart belonging to one Purkiss, and drawn from hence to Winchester, and buried in the Cathedral Church of that City."

Anno, 1745.

"That where an event so memorable had happened might not be hereafter unknown, this stone was set up by John, Lord Delawar, who had seen the tree growing in this place."

The continuity of English life is shown by the survival of Purkiss among the local names: at Minestead, a village near Rufus's Stone, it it still seen, and a shop is kept by a descendant of the ancient possessor of the name, while at Wimborne one of the principal booksellers keeps the old family name fresh and green, and other representatives of the family could easily be pointed out.

Brockenhurst Church was mentioned in Domesday Book; it is interesting, as the following extract from the work on the Forest, published in 1862, by Mr. John R. Wise, will show; at the same time there is nothing remarkable in Brockenhurst and its Church:—"The approach to the Church remains in all its beauty. For a piece of quiet English scenery nothing can exceed it. A deep lane, its banks a garden of ferns, its hedges matted with honeysuckle, and woven together with long bryony, runs winding along a side space of green, to the lytch gate, guarded by an enormous oak with a circumference of twenty-two feet eight inches, its limbs now fast decaying, its rough bark grey with the perpetual snow of lichens, and here and there burnished with soft steaks of russet-coloured moss, whilst behind it, in the churchyard, spreads the gloom of a yew, which from the Conqueror's day to this hour has darkened the grave of generations."

The approach to the district from the Isle of Wight, and even from Bournemouth, can be conveniently made from Lymington, a quaint and rather handsome little watering place, not specially remarkable for size or situation, or for its antiquities, but prettily situated, and at one time of much greater relative importance. It is necessary, however, to be on one's guard against local traditions, and not to accept without demur exaggerated reports of departed grandeur:—"From the earliest times it evidently possessed the salt works, which so late as the beginning of the present century, made the salt trade of Lymington second only to that of Liverpool, paying, as it did, a duty of £50,000 yearly upon the produce of its Salterns. The rock salt of the north, however, has driven sea-made salt out of the market, but so long ago as 1147, Richard de Redvers, a descendent from one of the noble families of Normandy, confirmed to the Church and brethren of St. Mary, at Quarr, in the Isle of Wight, the tithe which his father Baldwin had granted to them of the Lymington Salterns. In the reign of Edward III., when it sounds quaint to modern ears to be told that Lymington contributed nearly double the number of ships and men sent by Portsmouth to that Monarch's fleet for the invasion of France, the Borough was summoned to return representatives to Parliament, but none were returned till the 27th year of Elizabeth's reign, and it is somewhat remarkable that, from 1574 to 1834, the Burrard family held forty-six mayoralties, and represented the Borough in thirty Parliaments. They appear, in fact, to have been the Sultans of Lymington. It may interest the curious to know that the modern proposal to pay Members of Parliament is simply a revival of an old custom. In earlier times, the officials of Boroughs, invited to send representatives to Westminster, frequently made a return that no one could be found willing to undertake the duty. The archives of Southampton show that Thomas Reynolds, in 1st Henry VII., received for his 'Parliament wages' from January 23rd to March 8th, £71 3s. 4d., and at Christ-church, Sir Peter Mew, about the beginning of the eighteenth century, gave a bond, the condition of which was that he would not demand any pecuniary reward of the burgesses, or put the Borough to any expense on account of his service in Parliament. In 1677, to prevent animosities and other inconveniences, it was ordered by the Mayor and Burgesses of Lymington that for the future the election of Mayor, as well as of Members of Parliament for the Borough, should be by means of different coloured 'bullets,' to be placed by each Burgess in a box for that purpose, but this order does not appear to have been acted upon, and was rescinded shortly afterwards." It will rather startle the modern Radical to learn that that excellent institution, the ballot, with its immense advantages, was actually long ago proposed and perhaps tried

at what he would regard as a very sleepy Hants. borough. Through all the vicissitudes of eight centuries the ancient Saxon Forest, the boundaries of which were extended by the pitiless Norman, has continued, in its way, to be one of the most beautiful parts of England. One landowner after another has seized upon broad belts of woodland, and large tracts of the Forest have, under one pretence or another, been cleared and cultivated; and Mr. Auberon Herbert is at this moment complaining that the resident officials are cutting down timber, and spoiling some of the loveliest parts of the little kingdom entrusted to their tender mercies. Small towns and villages have sprung up in the district, and some of the best-kept and straightest roads in the kingdom run through that part of the country. Yet, after all, for sylvan beauty, for calm repose, for solitude, for accessibility, no other tract of equal extent is so remarkable. Change there has been, but less than one would expect, and portions of the Forest remain as they were four or five centuries ago. In the New Forest the England of the Middle Age still reigns supreme.

The New Forest is said to be singularly rich in animal and vegetable life, but such claims are so generally made everywhere, that they cannot always be accepted without demur; and, as far as I can judge, it is doubtful if they have much to rest upon, as far as the New Forest is concerned. Seventeen kinds of bronzed and green ferns grow in the Forest, and seventy-two species of birds are resident in the district, while at least 230 of the 354 British species have been found in it. The insect life of the district is rich and varied, and the vegetation is, in some places, luxuriant, while in others little except gorse, heather and poor grass flourish. Taking it as a whole, the Forest is not fertile, though in the river bottoms there are patches of rich land, which, partly from natural advantages, and partly from loving care, have an air of fertility and beauty, and stand in marked contrast to other parts.

How can I describe this lovely district? Persons, ignorant that forests are not necessarily covered in all their extent with tangled old trees, fancy that, as soon as they enter the New Forest, they see on all sides vast tracts of woodland, and nothing but woodland; never was there a greater mistake. Thousands of acres, as I have said above, are covered with majestic timber; and still larger tracts with recently-planted trees, but there are also still more extensive heaths. The charm of the New Forest is, next to its extent, owing to its variety. The heather is so thick, tangled, and tall, that during the late summer, when it is literally one mass of flowers, the Forest is more attractive than the most carefully kept garden, and I know nothing equal to it for wild, unapproachable loveliness. The dry, indeed arid soil of much of the district seems, in conjunction with the bright sunshine, to suit garden flowers particularly well, and their abundance and variety are difficult to surpass elsewhere in England. So with the older woods, it is their beauty and extent that delight. The timber may not always be as large as one could wish, though hundreds of acres are densely wooded, and carry trees fully satisfying the *connoisseur*. So, with the young plantations, their extent makes them remarkable. Persons who often stroll through large woods and plantations, and are keenly alive to the beauties of woodland scenery, feel how little they have entered into the charm of a vast forest until they wander for hours in the New Forest. Nothing resembling it exists in any other part of England, and nothing like it could now be made, while under the most favourable conditions it would take two or three centuries to produce such a forest. The mildness of the climate has something to do with the luxuriance of the heather and gorse, and with the beauty of the scenery, which is equal to anything in the south of England, though falling far short of the romantic glens of Derbyshire, and the rich verdure of Brecon and Hereford. The New Forest is, on the whole, flat, though not painfully so, or rather its surface is slightly undulating, with here and there hills of low elevation, one of the prettiest of these ridges being near Romsey and Broadlands.

One of the most charming excursions from Brockenhurst is to the noble ruins of Beaulieu Abbey. For nearly three miles the road winds among trees, and it then passes for a couple more over Beaulieu Heath, and finally gradually descends for a mile into the village, and on passing through the latter, to the left the handsome house in which Lord Montagu resides is seen; while a little to the right, over the river Exe, stands the parish church, a vast building, 150 feet long; once the refectory of the ancient Abbey. The church is beautifully and reverently kept, and is remarkable for its superb pulpit, and for a covered arcaded passage in the wall leading to it. This so-called pulpit was the rostrum of the Refectory, in the days when the Abbey was in its glory, and the reader occupied it at dinner. It is said that only one or two others of such beauty and interest remain. Near to the church extend for a vast distance the ruins of one of the grandest abbeys in the land, and no ruins are more exquisitely situated. The church was only seven feet shorter than Winchester Cathedral. Well was the spot named Beaulieu.

An uneasy feeling has taken possession of the public that the Forest is in danger of being enclosed, or felled. Attempts have been made to establish absolute lordship over parts of it, and though there is little immediate danger of destructive change, no one knows what form these claims, inquiries and investigations may one day assume. The best guarantee for the preservation of the Forest is that so large a proportion of the area known as the New Forest is covered with such very young timber, that it would not be worth while to stock it up, and nothing of the kind is likely to be attempted for years. The older timber might, it is true, be cut down, and the beauty of the scenery destroyed for a century or more—assuming that the removal of the better-grown timber would not be the first step towards the cultivation of the land on which it grew. Fears for the New Forest may have been unnecessarily aroused, and there may be little prospect of destructive change, but before it is too late to assert the claim of the nation to what remains of the Forest, the opportunity must not be allowed to slip. No one could otherwise tell when the loveliest woods in the South of England, still open to the public, might be closed against visitors, and converted into private property, and no one knows when the most charming woodland scenery, the most beautiful heaths the eye could desire to rest upon, may be spoilt by the hand of man and his so-called improvements. Timber of comparatively small size is constantly being cut, both on the Crown lands and on the estates of local magnates, and as long as this thinning is not carried too far, no fault need be found, indeed it is a positive advantage to keep trees from being too thick. But in wandering through the New Forest, it has often pained me to see hundreds of trees lying in all directions. The excuse is that it is necessary to thin the timber. All I know is that, with the exception of some portions, large tracts of woodland are so sparingly covered with timber that on hot days there is hardly any shade.

Nothing is easier than to cut down a few thousand young trees and thin a wood, but it takes twenty years before those remaining grow sufficiently to fill the large spaces made in all directions. So little old timber remains in this country that we must regard with suspicion all attempts to remove fine young trees that might, one day, take the place of the forest giants whose growth had required centuries.

If what I have said of the importance of preserving the New Forest in its present state, on account of its charming scenery, historical associations, and advantages as a health resort, is not satisfactory to zealous advocates of economy, who fancy that every foot of waste land should be used to grow food for our vast and hourly-increasing population, let me remind them of a few ominous facts. Were the New Forest cleared, were the 63,000 acres remaining used for agriculture, the produce would not maintain the inhabitants of such comparatively small towns as Bath or Cheltenham. At present, half our food comes from abroad, and so rapid is the increase of population, that not even the cultivation of all the parks and forests of England would provide food for the fresh mouths we may expect in the next ten years. There is such a thing as being penny wise and pound foolish, and the destruction of ancient woods, and the cultivation of waste places, would be dearly purchased by the increased disease and suffering, and greatly decreased enjoyment of life that would result.

I have not said a word about the Forest pigs—the liveliest and most charming little creatures in the world. In September, when they are running wild, nothing is more amusing than to watch them. Thousands of little fellows, black as ebony, with sparkling eyes full of fun and mischief, are careering madly about in all directions, intent on getting food, but withal inquisitive to a degree; if you sit down quietly for a few minutes, the little fellows are attracted, and first from one quarter, then from another, you see them stealthily approaching until I have counted over twenty a few feet off, gazing with undisguised interest at the intruder. Sometimes they gain confidence, and come sufficiently near to be actually touched; but usually they pull up some little way off, and as long as the person they are watching keeps quiet they feast their eyes upon him, but if he moves they are off like a shot, at a speed so little like that of ordinary decorous farm-yard swine that one is startled. When out of reach they halt, and in due course recommence their tactics. Truly they are, as Mr. Gilpin, of "Forest Scenery" memory, well said, most intelligent animals, with little tricks and ways that to the lover of nature are an inexhaustible source of delight.

XXXII.—WILTSHIRE.

SALISBURY AND STONEHENGE.

By Alfred J. H Crespi.

In such a series of papers as that now appearing under the very comprehensive heading of Health Resorts of the World, it is better to include some districts which, in many respects, may not at first sight appear to be health resorts, but which a brief inquiry shows have substantial claims to the attention of invalids and holiday seekers. Take Wilts: what verdure! what bright invigorating sunlight! what delightful excursions! what noble timber it offers! Even in the matter of sunshine it is a pleasant change to the North Countryman, and in proof of this I may mention that a strong young man—a School Inspector—who, a few years ago, was transferred from Lancashire to Sherborne, and subsequently to Wimborne, tells me that, though his sight had always been perfect, he found the constant glare of the white roads and rocks so trying that he was, for a time, compelled to wear dark glasses. He soon got accustomed to the clearer, brighter atmosphere of the South, and now thinks nothing of a Dorset or Wilts sun. I remember, too, hearing of a Manchester man, who in late middle life, found himself for the first time at Romsey in Hants. He told his friends that the sparkling sunshine was a new revelation.

In this paper I shall describe the two great attractions of Wilts—Stonehenge and Salisbury—and because of them Wilts may well claim to be a Health Resort of the first rank. Stonehenge has been too often described to leave anything original to say, while so many conjectures have been hazarded as to its uses, antiquity, and probable origin, that the reader may reasonably hope that nothing more of that sort is to be inflicted upon him. Well, as my paper is entitled *Salisbury and Stonehenge*, something about the latter must be said, unless it is to resemble Hamlet with Hamlet's part omitted, although I shall spare the reader's patience as much as possible, and not repeat what everyone knows or thinks he knows.

New Sarum, better known at a distance as Salisbury, stands on an extensive, and on the whole, not very beautiful plain, forty miles in breadth—not in the middle of it, however, but nearer its southern border. This plain, which, contrary to the usual impression, is not perfectly flat, and which, where not wooded, is barren and unattractive, is being brought into cultivation, and is in some places sufficiently fertile, at least corn grows well. Gardens, however, flourish, and the luxuriance and abundance of its flowers are above all description.

The author of "A Hundred Days in Europe" speaks warmly and admiringly of English landscapes, their verdure, fertility and cultivation, but he was not equally struck by their trees and brilliant climate. "I recall 'Birkett Foster's Pictures of English Landscape," a beautiful poetic series of views, but hardly more poetical than the reality. How thoroughly England is *groomed!* Our New England out-of-door landscape often looks as if it had just got out of bed, and had not finished its toilet. The glowing green of everything in England strikes me: green hedges in place of our rail fences, always ugly, and our rude stone walls, which are not wanting in a certain look of fitness approaching to comeliness, and are really picturesque when lichen-coated, but poor features of landscape when compared to these universal hedges. I am disappointed in the trees so far; I have not seen one large tree as yet. Most of those I see are of very moderate dimensions, feathered all the way up their long slender trunks, with a lop-sided mop of leaves at the top, like a wig which has slipped awry." Perhaps our lively colleague had too high a standard and expected too much; for my part I was greatly disappointed by the smallness of Virginian timber, and hardly saw a single large, noble, symmetrical tree. Perhaps I was unfortunate, but so might have been Oliver Wendell Holmes.

Salisbury is eighty-two miles south-west of London, four east of Wilton, and sixteen north-west of Romsey; it stands near the confluence of the Nadder and the Wiley with the Avon. New Sarum, although generally spoken of as a very ancient city cannot claim extreme antiquity. It was commenced about 1220, and the first mayor was elected in 1227: it rapidly grew in size and importance, and remains a favourable specimen of a quiet, respectable and rather

dull old country town, with a sprinkling of handsome villas and some capital shops. In many respects Salisbury is noteworthy. Its Cathedral, world renowned for its graceful spire, towering over 400 feet in height, is a perfect specimen of unmixed Gothic. Larger Cathedrals there are, longer ones too, some too more gorgeously decorated, while others are more interesting to the antiquarian; but none more certainly fascinates the visitor. Often and often in bygone years I have walked by sunlight and by moonlight through the Cathedral meadows—a broad, luxuriant, and level expanse of splendidly timbered fields surrounding the church—and thought that nothing more beautiful could ever gladden my eyes. The Cathedral is absolutely perfect; its proportions are so just that its extraordinarily lofty spire is in harmony with the remainder of the structure, in short there is no disproportion anywhere. The exterior of the church has been recently carefully restored, and the visitor is struck by its bright, clean appearance, though after Lincoln and Ely it looks small and too much flooded with white light. Oliver Wendell Holmes was however less struck by the extreme loveliness of some of our beautiful Cathedrals than one would have expected; his words are curious to our English ears. "The old Cathedral," of Chester I think, "seemed to me particularly mouldy, and in fact too high flavoured with antiquity. I could not help comparing some of the ancient Cathedrals and Abbey Churches to so many old cheeses. They have a tough grey rind and a rich interior, which find food and lodging for numerous tenants who live and die under their shelter or their shadow—lonely servitors some of them, portly dignitaries others, humble holy ministers of religion many, I doubt not—larvæ of angels, who will get their wings by and by. It is a shame to carry the comparison so far, but it is natural enough; for Cheshire cheeses are among the first things we think of as we enter that section of the country, and this venerable Cathedral is the first that greets the eyes of great numbers of Americans." Salisbury Cathedral is a noteworthy specimen of unmixed Gothic, because, unlike most churches of the largest size, it was designed on one plan and rapidly completed before there had been time for new architectural styles to arise. As it was only thirty-eight years in construction, there is no mixture of designs—no unsightly, inharmonious juxtaposition of discordant parts. The town of Salisbury was also carefully laid out by its far seeing founder, Bishop Poore. That enlightened prelate divided the city into squares much like those of an American towns by five principal streets, running north and south, and five east and west, so that the thoroughfares remain broad and straight. In the last place Salisbury has three grand old parish churches—St. Thomas's, St. Edmund's, and St. Martin's; and is thus interesting among Cathedral towns, which often abound in small, dingy Churches, all the architectural enterprise and beauty of the City having apparently expended themselves on the Cathedral. New Sarum well repays a visit of a month or six weeks; it is an excellent railway centre and the visitor can easily get with little loss of time and at trifling expense into the heart of the New Forest, and to Wimborne, Bournemouth and Corfe Castle, as well as to many other towns.

In the immediate neighbourhood of the city there are many places of considerable interest. On the Southampton-road, a couple of miles off, stretches an extensive and beautiful park, heavily timbered, the seat of Sir Frederick Bathurst. In Clarendon Park, two miles from the high road, stood, seven or eight hundred years ago, a royal palace—some portions of which can still be seen in a deserted and tangled garden. Nothing remarkable strikes the eye in that piece of wall—thirty-four feet long and twenty high—yet it is precious to every patriotic Englishman, for there, January 25th, 1164, Thomas à Beckett and his followers signed the memorable Constitutions of Clarendon. No character has been, and is still, more keenly debated than that of Beckett, and in common fairness I must say that modern researches have thrown great additional light on the Archbishop's motives and conduct; and while his enemies have had their hatred deepened, his admirers contend that there is nothing, as far as can be ascertained, to prevent a thoughtful students defending his life and arguing that he was an enlightened and far seeing statesman and churchman, and that the usual estimate of his character is erroneous. A mile further along the road is the lovely village of Alderbury, almost hidden in trees.

Let us return to Salisbury, pass through the city and make our way towards Wilton; we can wend our steps through Bemerton, a small and not particularly pretty village, with little of the village remaining, a mile from Salisbury, and two from Wilton. At Bemerton a tiny old church arrests our attention; its door is nearly always open. In that little old church nothing striking offers itself, though on its walls are to be seen monumental tablets to Archdeacon Coxe, and Mr. Norris, men of mark in their day, the former famous as a historian, the latter as a metaphysician; both sometime rectors of the parish. You look in vain for other monuments, and, with the exception of a pretty painted window over the altar to the memory of Lord Herbert of Lea, nothing interesting is seen. Yet under that altar, at least so report says, sleeps good George Herbert, the sweet Christian poet, and the brother of the great scholar and philosopher—Lord Herbert of Cherbury. That one so gifted and holy as George Herbert reposes in a church, is enough to make it famous. Passing on to Wilton, you have, either on the right or the left, according to the road you take, Wilton House—memorable in English History—the seat of the Earl of Pembroke, son of Sidney Herbert: the latter lies in the beautiful parish church, built at his sole expense, in the Byzantine style; its is remarkable for its gorgeous ornamentation and superb Campanile; the latter is said to be a representation of the Campanile of St. Mark's at Venice. Perhaps it is bad taste, but, beautiful though that grand and costly edifice undoubtedly is, it is not as quaintly interesting in my eyes as a fine, old English, Gothic church.

Returning to Salisbury, we are ready for our long walk to Stonehenge, after seeing the old workhouse, or Diocesan Church-house as it is now, and the splendid museum founded and built by Dr. Blackmore. There are several ways of going. You can go to Ambresbury, commonly spelt Amesbury, and thence to the great stones, or along the Devizes Road—the latter as monotonous, hot and dusty, as any country road can well be; or you can wander along the Valley of the Avon for six or seven miles, then across the interminable plain for three more, unless, as commonly happens, the traveller loses his way, when he may wander about the plain for a couple of hours before reaching his destination. Assuming that the last of the three routes is selected, one has, at first, little cause to complain of the picturesqueness of the country, and the lofty and magnificent timber might even have satisfied Wendell Holmes. Two miles from the city, you see to the right a curious, but not

at first glance, a very remarkable hill—something like a stupendous barrow; and were it not so huge, it might be mistaken for the tomb of an ancient hero of more than commom renown. That hill is the site of Old Sarum, the Sorbiodunum of the Romans. It thoroughly deserves to be well explored. No architectural remains can be seen beyond a huge mass of rough masonry—probably the granary of the Castle—not a trace of the Cathedral that once stood on that lonely and almost inaccessible site, not a vestige of the Monasteries and houses of the once busy city. Yet is old Sarum deeply interesting; and the most careless can hardly help being filled with solemn thoughts as the feet press the uneven turf, growing over what was once the scene of much animation, and perhaps of great bloodshed. The silence of death reigns over the spot where Britons first, then mail-clad, iron nerved Romans, and, more recently, Saxons, lived and died. The ancient fortifications are intact, and the huge mounds and deep trenches as perfect in places as on the day when they were first constructed, and they would still be formidable obstacles to storming parties.

The Antiquities of Wilts are inexhaustible—tumuli abound: and within a few miles of Stonehenge 300 barrows can be counted, while as one skirts the eastern border of Dorset, earthworks are very numerous and stretch for miles, comprising among them the splendid camps at Castle Hill, Cranborne, and Badbury Rings, Wimborne.

The Wilts folk have quaint manners, and still shun change and distrust strangers. On both points I subjoin some curious information, for which Dr. Stevens, now of Reading, is my authority; indeed, this learned member of the profession has done much to clear up many mysteries. Forty-five years ago, when Dr. Stevens settled at St. Mary Bourne, the people generally lived in thatched houses, and had many pretensions to be considered old-fashioned. One inhabitant remembered the introduction of the first sash window in the district, and the time when the passing of a strange post-chaise through the quiet street was a sufficiently remarkable event to secure a half holiday for the school children, so cut off from all communication was the sleepy little hamlet. Corbett, in his "Rural Rides," relates a conversation he once had with a woman in the village of Tangley, which gives a vivid conception of the stay-at-home character of the people at the beginning of this century. He says: "I rode up to the garden-wicket of a cottage, and asked the woman, who had two children, and seemed to be about thirty years old, the way to Ludgarshall, which I knew could not be more than about *four miles* off. She did *not know!* A very neat, smart, and pretty woman, but she did not know the way to this rotten borough, which was, I was sure, only about four miles off! 'Well, my dear good woman,' said I, 'but you *have been* at Ludgarshall?' 'No.' 'Nor at Andover?' (six miles another way). 'No.' 'Nor at Marlborough?' (nine miles another way). 'No.' 'Pray were you born in this house?' 'Yes.' 'And how far have you ever been from this house?' 'Oh! I have been *up in the parish and over to Chute.*' That is to say, the utmost extent of her voyages had been about two-and-a-half miles."

Dr. Stevens remarks that: "The humble position of the secular clergy is shown at the time of Domesday in the mention of priests among the villeins of the manor. Bearing on this there is an entry in the Church register of the neighbouring hamlet of Woodcot: it commences with the year 1587, and contains various entries relating to the Kingsmill family, one of which refers to a 'Master of Artes' who is stated as being a servant to one of the Kingsmills. Under the Saxon laws tithes appear not to have been taken in the shape of tenths, as the tenth sheaf, but in land, every tenth strip being left for the Church by the ploughmen, if, indeed, the ploughing was not performed by the common ploughs, in return for the services rendered by the priests. In the laws of Ethelred, 978-1016, it was ordered that every man should give his churchshot and just tithe, *as the plough traverses the tenth acre.*"

In Wilts one feels that the continuity of English life is unbroken, and that the inhabitants are of the old breed still. Near the road, a little beyond Old Sarum, on the left stands an old house—one of the five or six where tradition says that the great Earl of Chatham first saw the light—and on the right is the Church of Stratford Sub Castle, noteworthy for an inscription over the doorway, "Parva sed apta Domino;" and another on the tower to the following effect, "Thomas Pitt, Esquire, Benefactor, erected Anno 1711," commemorated on the principle of not letting the right hand know what the left hand does. Beyond Stratford Sub Castle the road divides: that to the left winds through Lower Woodford and Middle Woodford to Stonehenge. Just beyond the bifurcation, walking back to Salisbury late one summer evening, the 21st of July, I was startled by hearing the clear ringing notes of a Cuckoo among the tall trees to my left. Never before or since have I heard that mysterious bird so late in the season. The road to the right takes through some magnificent beech groves, past Netton, Upper Woodford and Lake, and then straight across the plain to Stonehenge. What is Stonehenge? what does it look like? who built it? He would indeed be wise who could answer. The writer of an article on Stonehenge in the *Quarterly* for July, 1860, contended that the circle was erected between the departure of the Romans and the final conquest of the country by the Danes and the Saxons, and he gives the credit to Aurelius Ambrosius, who reigned from 464 to 508 A.D. Professor Nilssen, the Swedish antiquary, read in July, 1865, a paper before the Ethnological Society of Linden, in which he compared it to a temple of a similar description at Kiveh, in Sweden, and with Syrian and Phœnician sun temples. He considers Stonehenge to have belonged to the age when bronze was employed for weapons and implements in Western Europe, and he believes it to have been dedicated to solar worship. Sir John Lubbock, in a lecture at the Hartley Institute at Southampton, gave it as his opinion that Stonehenge and Abury belonged to the Stone Age, and this was supported by the large number of tumuli around. Dr. Thurman thought the temple was connected with solar worship. Alas! we want something certain and indisputable, and instead of that, have to be satisfied with crude and unreliable conjectures.

The following quaint passage suggests an origin ancient and musty enough to satisfy the most exacting antiquary. "In 1823," says a local handbook, "H. Brown, of Amesbury, published 'an illustration of Stonehenge and Abury,' in which he endeavoured to show that both of these monuments were antediluvian, and that the latter was formed under the direction of Adam. He describes the present dilapidated condition of Stonehenge to the operation of the general deluge;" for, he adds, "to suppose it to be the work of any people since the flood is entirely monstrous."

Let me confess that the engravings I have seen convey an imperfect, indeed, an incorrect representation of this

world-renowned pile. I have stood with one of the best finished engravings in my hand, and tried to fancy what mental or ocular obliquity induced the artist to produce such a misrepresentation, but in vain. Four circles of stones can be made out; the first and third from the outside consist of enormous blocks of sandstone, the second and fourth of smaller masses of granite: the former were perhaps found on the plain itself, the latter it is conjectured came from Devonshire, or, at any rate, from a great distance. Although a second visit deepens the impression and corrects misapprehensions there is, after all, nothing like the first look. The first time the eyes fall on Stonehenge is an epoch in one's life. "A first impression," says Oliver Wendell Holmes, "is never one to be repeated; the second look will see much that was not noticed before, but it will not reproduce the sharp lines of the *first proof*, which is always interesting, no matter what the eye or the mind fixes upon. 'I see men as trees walking.' That first experience could not be mended. When Dickens landed in Boston, he was struck with the brightness of all the objects he saw—buildings, signs, and so forth. When I landed in Liverpool, everything looked very dark, very dingy, very massive in the streets I drove through. So in London, but in a week it all seemed natural enough." Stonehenge is a heap, and not a large one, of vast blocks of stone lying in bewildering confusion, and the circles are less distinct and easy to trace than commonly supposed. Those pretty models, sold to the credulous, as representations of *Stonehenge restored* are as true to what the tourist actually sees as some of the engravings, which, to prevent the possibility of error, are marked Stonehenge. The circles are so small, that disappointment is the first impression; nevertheless, the stones, though comparatively few, are really of colossal dimensions, and their bulk only dawns upon you after you have got to know them well, and have visited them several times. The best view is from the left hand of the enormous stone close to the Heytesbury-road. Standing there, facing Stonehenge, one is unable to conceive how such stupendous masses were ever hewn or moved, and yet distinguished travellers assert that comparatively rude Asiatic races continue to move blocks of even greater size than any at Stonehenge, and for this purpose they use rollers, while they manage to raise the stones to a great height above the ground by means of inclined planes. The designers of Stonehenge must have done much the same. But what labour! Looking around other wonders catch the eye. Far and near in all direction barrows crop up in which lie ancient heroes and kings, who died so long ago that Roman coins are, it is said, never found in them—a tolerably conclusive proof that they were constructed before the arrival of the Romans.

A little north of Stonehenge extended the ancient Cursus—the uses of which can only be conjectured. It stretched a mile and a half across the plain and was probably a chariot course. At the Autumn Manœuvres, fifteen years ago, on Salisbury Plain, it was still perfect. Alas, a Vandal, in whose dense skull lurked stupid hatred of the precious relics of antiquity, has actually ploughed up a part. We are still imperfectly protected by the law against the tyranny of the opulent and powerful, and, in spite of stringent Acts of Parliament for the protection of Ancient Monuments, were a man only sufficiently wealthy and ruthless, and had he two or three titles, he might almost with impunity demolish Stonehenge, or pull down Tintern or Glastonbury. My advice to those having the opportunity is, to visit our ancient Monuments as quickly as possible. Many are gone and not a trace of them remains; some are going; and who knows when the last will disappear? Abury is almost a thing of the past. So may Stonehenge be some day. As I correct this article, which has been hidden away among my MS. for a dozen years, my eye is caught by an ominous paragraph in the *Times* uttering a lament over the impending desecration of the Cheddar Rocks, now being used as quarries. Can anyone, who has passed a summer day exploring that stupendous rift, as it looks, forget the impression made upon him? Rift it is not, only the channel left by the persistent passage of water through countless thousands, nay millions of years; but rift it nevertheless looks. It is so easy to destroy the salient outlines of such a natural marvel, and when it has lost its characteristic features, not all the king's men nor all the king's horses can ever restore it to its former majesty. The State should purchase and preserve the most remarkable remaining Ancient Monuments, natural and artificial, which ought to be treasured among the national heirlooms. Can nothing be done? Will not public opinion make itself heard? From one end of the land to the other, ancient abbeys, churches, castles, houses and walls have been swept away, and the process of destruction continues.

Well, I hope I have said enough to justify the pretensions of Salisbury to take rank among the health resorts of the world; favoured to a high degree by nature and art, full of modern comforts, with a delightful summer climate, and in the midst of noble ancient monuments, it compares favourably with many of those entirely-new seaside places to which thousands flock, but which have neither grand timber nor time-honoured associations to give them lasting and living interest.

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

Methacetin, a new Antipyretic—Menthol in Asthma—Thiol a rival to Ichthyol—The use of Creolin.

To-day I have to report to you on a few new remedies. *Methacetin* is one of them. The discovery of the antipyretic properties of acetanilid (antifebrin), made by Cahn and Hopp, has proved very fruitful. It has not only added a valuable antipyretic to the list already known, but it has led to comparative researches into its chemical composition and therapeutic action. By substituting some of its chemical compounds by others, new substances, with a surer and less complicated action, have been discovered. One of the consequences of such researches was the introduction of phenacetin into therapeutics. To the same group of pharmacological products belong two other recently-introduced remedies: methacetin (examined by Mahnert, in the clinik of V. Jakesch, of Graz) and exalgin (recommended by Dujardin-Beaumetz and Bardet). Both substances are in close relation to phenacetin and antipyrin. It is at present impossible to give a verdict on these new remedies, and it remains to be seen whether they will in future attain any practical importance, and whether they have properties placing them above the antipyretics and antineuralgics usually employed, or whether they will enjoy only a theoretical interest.

The name methacetin was chosen by Mahnert for its shortness. Chemically, it would be called: acet-para-anisidin. It is derived from amido-phenol, in a similar way to phenacetin, or acet-para-phenacetin. Methacetin,

as used in Mahnert's experiments, consists of a reddish, odourless powder, of a bitter, salty taste. The powder is in the form of finest crystalline scales, soluble in cold water, more soluble in warm water and alcohol. The result of experiments made on animals was a considerable lowering of temperature, from 39° C down to 36°, and even 35°. Unfortunately, the dose by which this was effected is not indicated. This lowering of temperature was accompanied by general convulsions, showing that the whole central nervous system was affected. The fatal dose for rabbits was three grammes. The urine of the animals experimented on, was free from hæmoglobin, and possessed reducing properties. The only instance where methacetin has up to the present been tried, is in febrile diseases of children. The temperature went down slowly and gradually, and remained low for several hours. The after-effects seemed to produce frequent perspiration, and in one case collapse. Other unpleasant after-effects were wanting. The dose for children varied from three to five grains. Mahnert is quite unable to decide, from the small number of his experiments, whether the new remedy possesses considerable advantages over the familiar antipyretics.

"The Effect of Menthol in cases of Asthma" is the subject of a communication by Dr. Jores to the *Therapeutische Monatshefte*. He attended a lady who suffered from attacks of asthma and congestion to the head, which recurred every few days. By appropriate treatment the congestions were checked, but the fits of asthma grew worse than ever. Jores having heard of the favourable effects of menthol in pulmonary affections, and especially its action on the bronchial secretion, resolved to try it in this case. Crepitation and rhonchi were heard on auscultation of the lungs, before the drug was administered. After inhalation of a few drops of a 20 per cent. solution of menthol in olive oil, the attack was suddenly stopped; normal breathing was heard on auscultation; the heart's action remained unaltered; pulse remained full and strong. The patient being asked about her sensations in the head, remarked that sometimes she felt dizzy, and had sensations similar to those felt during the first stage of chloroform anæsthesia. Ever since its first administration (January 2nd, 1889), the remedy has promptly checked each asthmatic attack that the lady has had, and Dr. Jores is therefore in a position to recommend further trials of this drug in suitable cases.

Ichthyol has found a rival in Thiol, a new product of chemical synthesis, obtained by artificially sulphuretting unsaturated hydro-carbons, and charging these with ten per cent. of sulphur. Chemical and therapeutical researches prove its exact identity with ichthyol. Thiol consists of a brown fluid of the consistency of syrup; it is completely soluble in water, is totally inodorous, and has therefore a decided advantage over ichthyol. There exists also a dry thiol, which has two and a half times the strength of fluid thiol, otherwise having the same properties as the latter. Thiol is used like ichthyol in the following diseases: Acne, acute and chronic rheumatic arthritis, other rheumatic affections, contusions, decubitus, eczema, erysipelas, neuralgia, ischia. leprosy, frost-bites, prurigo, pruritus, ulcus cruris, burns, and scalds. On the initiative of Schweninger, thiol was tried at the Charité Clinic of Berlin, and Dr. Reeps reports on these trials in a very favourable light, as does also Dr. Buzzi, whose opinion is based on an even more extended clinical experience.

Dr. Reeps states that it may safely be concluded that thiol, externally applied in skin diseases, has positively the same effect as ichthyol. As their effect in these instances is identical, it may also be assumed that thiol will prove equally efficacious in other diseases where ichthyol has been employed. Reeps has taken internal doses up to two and a half grammes without discomfort or disturbance of the stomach; and he believes, therefore, that it is comparatively harmless. It has been asserted lately that this is not the case with ichthyol, but he ascribes the adverse physiological effects of ichthyol to its obnoxious taste and odour, and these are entirely eliminated in thiol. He does not consider there is any further doubt that thiol and ichthyol are two exactly identical substances, and that thiol will serve to replace ichthyol when the natural sources of the latter remedy become exhausted; even now the discovery may be recognised as a great boon, which makes us independent of nature's supply of this valuable remedy. The following are the usually prescribed formulæ:

℞ Thiol..... ʒi.
Vaselin..... ʒi.
Lanolin..... ℥i.
M. f. ungt. S. For external use.

℞ Thiol sicc. ..... gr. 2
Pulv glycyrrhizæ.... gr. 2
Glycerin tragacanth q. s.
f. pilula. S. One pill to be taken three times a day.

℞ Thiol sicc. ..... ʒi.
Zinc oxid. ..... ʒii.
Amylum ..... ʒi.
Talc ..... ℥ii.
f. pulv. S. The affected parts to be dusted with this powder.

During the last few years none of the more recent remedies has had such a rapid success as creolin, identical with a patent fluid, of which a refined preparation has been named "Liquor Antisepticus." When creolin was suddenly recommended in Germany as an unsurpassed non-poisonous disinfectant, many voices were heard which objected to the use of a remedy that was a "patent article;" but the hesitation was soon overcome when it was found that the preparation really fully deserved the claims made for it. In many hospitals, clinics, and in private practice, creolin has completely superseded the use of corrosive sublimate, carbolic acid, iodoform, etc., in antiseptic surgery. Authorities like Von Nussbaum, Von Esmarch, Professor Fröhner, Dr. Kortum, have given such favourable verdicts on creolin, that it has now become a generally used disinfectant—for instance, for sterilising instruments before operations, for irrigation of wounds after operation. Creolin is especially convenient for the disinfection of the hands. In the ophthalmic, aural, and gynæcological practice, its use has become general. For prevention of the formation of pus, and for deodorising large carcinomata, profusely discharging ulcers, creolin has proved very successful. The following are the daily formulæ in Germany:

No. 1.—Solutio Creolin (half per cent.)

℞ Creolin..... ♏x.
Aquæ dest..... ʒiv.
Sig. To be shaken before use. For the irrigation of wounds, impregnation of tampons, moistening of bandages, etc. Also for washing the genitals, and for syringing the uterus and vagina after delivery.

No. 2.—Solutio Creolin (two per cent.)

℞ Creolin..... ʒi.
Aquæ dest..... ℥vi.
Sig. To be well shaken before use. For the preparation of poultices and all dressings, for sloughing wounds, and for the disinfection of hands and instruments; also as a hæmostatic.

No. 3.—Injectio Creolin.

℞ Creolin..... ♏2 to 10
Aquæ dest.....ad ℥iv.
Sig. The injections. As a injection for gonorrhœa, leucorrhœa, and catarrh of the bladder.

No. 4.—Pulv. Creolin.

℞ Creolin..... ♏xxv. to ℥i.
Acid boracic ..... ℥iii.
Sig. Antiseptic powder. For dry bandaging; for eczema in the neck or nose.

No. 5.—Oleum Creolin.

℞ Creolin..... ♏xv.
Olei olivæ ..... ℥ii.
M. Sig. Antiseptic oil. For inunction of the hands in gynæcological practice.

No. 6.—Pilula Creolin.

℞ Creolin..... ♏xvii.
Extract et pulv. glycyrrh ..āā q. s.
Make 100 pills. Coat with collodion. Sig. Two pills to be taken night and morning.

No. 7.—Ungt. Creolin.

℞ Creolin .....♏xii.
Lanolin .... ℥ss.
M. f. ungt.

Clinical Cases.

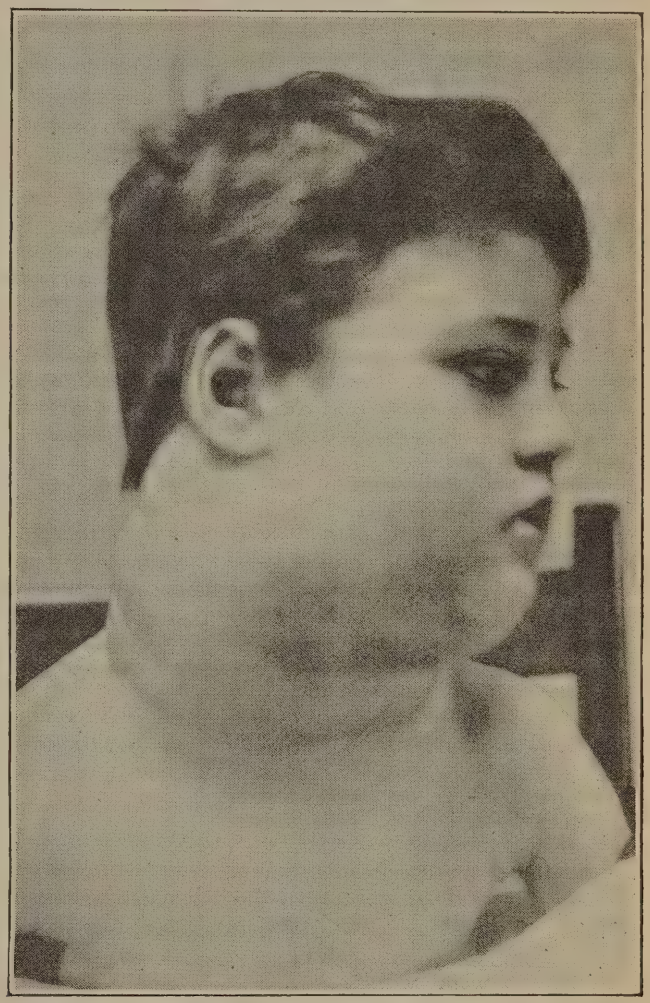
A CASE OF HODGKIN'S DISEASE.

By T. C. Railton, M.D. Lond., M.R.C.P.,
senior assistant physician to the manchester clinical hospital for women and children.

M. R——, æt. seven years, admitted into the hospital September 13th, 1888, with enlargement of the lymphatic glands of the neck. The family history appeared to be without any bearing upon the case. Her previous history was as follows:—She had two fits during dentition, measles when three years old, but no other complaint until five years old, when she had another fit. Soon after this it was observed that the glands upon the left side of the neck were somewhat swollen, and for nearly twelve months they slowly and steadily enlarged, until they reached their present size, after which they remained stationary, giving no pain, showing no signs of inflammatory action, and not affecting the general health. There was no history of any affection of pharynx, ear, eye or scalp.

Six months previous to admission, the glands upon the right side of the neck commenced to enlarge, and the increase in size proceeded with rapidity, so that when first seen they were almost of the same bulk as on the left side. On admission, she appeared to be tolerably well in health, with rosy cheeks, good appetite and strength. The glands in the neck reached from behind the ear to the clavicles, so that her face and neck appeared like a truncated cone. The glands were firm, elastic, and so connected together as to be movable *en masse*. The skin over them was of normal colour, and there was but slight tenderness on pressure. There was a small gland, the size of a marble, to be felt in each axilla, but no other superficial glands could be found, nor were any to be detected by deep palpation in the abdomen, or by percussion at the roots of the lungs. The liver in front, extended from just above the fifth rib to a little below the costal cartilages, and no more. The finger tips were slightly clubbed. The heart was perfectly normal. At the apex of the right lung there were slight rhonchi, back and front, but there was no dulness, and the rest of the lungs were normal to percussion and auscultation. There was no œdema nor other symptom of pressure. The blood showed no increase of white corpuscles. The urine was normal.

Temperature on admission, 101°.2, taken in the rectum. She remained in the hospital eleven days, after which her parents insisted upon taking her home. During her stay, the temperature varied between 100° and 101° for the first three days; for the remainder of the time it stood pretty constantly about 100, with very slight morning remissions, as a rule not more than half a degree. There was little or no change to be noted in her condition when she went out.



On going home, she felt ill and was put to bed. The tumours in the neck enlarged rapidly, especially those of the right side, and the glands in each axilla attained the size of a hen's egg. The abdomen swelled, especially on the left side, and the labia and feet became subsequently œdematous. A fortnight before death the right arm became very much swollen. She died on November 11th. The history of her progress subsequent to her removal from the hospital was derived from the relatives, as she was never seen alive after she left for home. No post-mortem examination could be obtained.

Remarks.—This case appears to be worth recording on account of the course taken in its evolution. We have the insidious enlargement of the glands on one side of the neck proceeding for a year, and followed after a period of

quiescence for about six months, by a similar increase in those of the opposite side, but differing from the former by the greater rapidity of their development, the increase in size, at all events during the time she was under observation, being accompanied by an elevation of temperature. In the course of two months this was followed by an evident generalisation of the disease, as shown by the enlargement of the axillary, intra-thoracic and abdominal glands, perhaps also of the spleen.

Reviews.

Studies in Clinical Medicine. By BYROM BRAMWELL, M.D., etc. 4to, pp. 26. Edinburgh, 1889.

"UNDER the above title" (we quote from the prospectus) "will be published on Friday, May 3rd, and every alternate Friday thereafter, during the forthcoming year . . . . . a record of some of the work done at Dr. Byrom Bramwell's Out-door Clinic in the Edinburgh Royal Infirmary. The "Studies" will consist of cases drawn from all departments of clinicial medicine. The questions put to the patient, the patient's answers, and Dr. Byrom Bramwell's remarks, will, so far as circumstances allow, be published *verbatim.*" This prospectus is accompanied by an "order form" for subscriptions, which certainly, having a regard to the illustrations and typography, is fixed at a rate that can scarcely be remunerative to the author; doubtless the publishers are able to guard their own interests. Unquestionably the publication, in its present form, has the appearance of an advertisement or trade venture, but the contents raise it indisputably above any such obnoxious representation, and suffice to secure Dr. Bramwell's reputation from the imputation of other than the most praiseworthy motives. In vindication of his mode of conducting his clinical instruction, Dr. Bramwell has the example of no less an authority than Professor Charcot. The perusal of the questions and answers here given, together with the author's clinical remarks, must afford assistance to students of medicine, giving them an insight into the intricacies and obscurities of complicated cases. The illustrative cases given in detail in the present number by Dr. Bramwell are of intra-cranial syphilis, with illustrative drawings; mitral stenosis; hemoptysis; old infantile paralysis; ulcer of the stomach, and the therapeutic value of arsenic; followed by valuable practical comments upon the difficulties, advantages, and disadvantages of out-patient practice. A volume of these "Studies in Clinical Medicine" will furnish, even to the advanced practitioner, many new views, and constitutes an available "Body of Clinical Medicine."

W. B. KESTEVEN, M.D.

The Physician as Naturalist: Addresses and Memoirs bearing on the History and Progress of Medicine chiefly during the last Hundred Years. By W. T. GAIRDNER, M.D., LL.D. Glasgow, 1889.

A REPRODUCTION of even a small portion of the literary work of so eminent a physician and author is bound to be of interest. The first essay, giving the title to the volume, was the presidential address to the British Medical Association in Glasgow last year, and is within the memory of all. Although published in the weekly journals it well bears republication in a form more adapted to careful reading and assimilation. How many members only skim the weekly journals, and of those who put aside an occasional number for leisurely perusal, how few do not allow the arrival of the new number to completely set aside the old ones? An essay like this is worthy of a better fate, and should lie on the table undisturbed by the advent of another weekly journal until it has been carefully read and digested. Dr. Gairdner's remarks on the training of the physician cannot be too often reprinted, and we offer no excuse for again directing attention to the following paragraph: "The first lesson to be learned in order to make all other lessons possible is, in my opinion, this:—to deal very largely with things and not with mere words; to realize as much as you can all your instruction by making it your own through personal observation; to suffer nothing, if it can be possibly avoided, to lie in the mind as a dead weight of vocables, oppressing the memory and dwarfing the intellect; but to bring everything into the living light of fact and of Nature, and thereby at once to assure to yourself the truth and exactness of your knowledge; while at the same time you are stamping it down upon the memory by the most sure and lasting of all technical methods."

The next essay asks the question, "Has the art of medicine advanced during the last hundred years?" After a lengthy consideration of this question he sums up as follows:—"A vast army of earnest, unprejudiced, and disciplined workers has been engaged upon all the unsolved problems connected with disease. Diagnosis and pathology have made immense strides in advance during nearly the whole of the present century. Operative surgery has achieved the most brilliant and unquestionable triumphs of any period in the long course of medical history, and this in almost every department. Hygiene and sanitation, with their reflected influence on curative medicine, have advanced by leaps and bounds; and, even in the application of strictly therapeutic methods, the changes, though not so easily stated or so palpably appealing to the judgment of public opinion (inasmuch as quackery always is and always will be more self-asserting than truth), are all in the right direction. Polypharmacy, in its old and irrational forms, is now nearly gone. Hardly anyone of intelligence supposes now-a-days that a disease is to be slain by a mere prescription or Latin formula.

A science of pharmacology, or of the uses and actions of medicines, is being built up upon a foundation that was never even possible before the present day, and which, beyond all question will render this, the least satisfactory department of the science of healing, far more secure in the future. The mere simplification in the forms of remedial agents, and the mitigation accordingly of the old, inexpressibly repulsive, and nauseous manner of prescribing them wholesale (which incurred the ridicule of Molierè two centuries ago, and yet lived on almost in our own day) represents an advance by no means devoid of importance as regards the comfort of the individual patient, and the peace of our families, and especially of our nurseries. Nor is the immense relief to human suffering by the use of anæsthetics, rightfully employed, and of narcotics and anodynes in greatly improved forms of administration, to be lost sight of, even in the most brief allusion to the modern use of drugs. All that removal, moreover, of the old traditional dogmatisms to which I have referred, has been merely a clearing of the ground, so to speak, on which a modern science of healing, not by any means forgetful of its past history, but entirely unshackled by its old errors and prejudices, is being slowly but surely built

up. And the fervid youth of the present generation, if they remain true to the spirit and not to the mere letter of the Hippocratic medicine, may well be grateful to their fathers and their grandfathers, were it for nothing else than this important and necessary process, whereby a soil has been prepared, at much cost of individual labour and sacrifice, on which they are permitted and privileged to sow the seed, and to reap more or less fruitful crops of good for humanity at large."

Of the ten other essays we propose only to mention the one in homœopathy. It is curious to note how ancient this essay, written in 1856, now appears to be, and how comparatively trivial the subject now is. Although homœopathy still lingers amongst us in name, where can we find the professor who would adhere to the extravagant dicta of its founder, or who would practise consistently in accordance with the exclusive doctrine *similia similibus?* It is not necessary in these times to overthrow the slain, but Dr. Gairdner's argument against the system in the following paragraph is worthy of repetition. "It is plain that the reduction of the homœopathic dose to an insensible and preposterous minuteness was determined by a fact which ought in reality to have determined the rejection of the system, founded, as we have seen it to be, not upon experience, but upon abstract reasoning. The first experiments, doubtless, revealed what subsequent experiments corroborated—that homœopathic remedies invariably aggravate the diseases they are intended to cure; or, as Hahnemann somewhat naïvely says, that *the artificial disease which the remedy has incited in the most suffering parts of the organism goes the length of being hurtful.* Hence the necessity of reducing the doses." We may now well ask the present professors of homœopathy if they have given up this tenet of their master: "that a homœopathic remedy always does harm when given in too large a dose, and does harm all the more in proportion as the dose is larger." The infinitesmal system having been given up, it would appear that the keystone of the structure—the *similia similibus*—must be given up therewith.

Dr. Gairdner's friends must gladly welcome this book as a reminder of the more characteristic features of his life, and the stranger will prize it as a bond of union with an author whose work cannot but give pleasure and profit to the reader. R. Shingleton Smith.

A Manual of Practical Pharmaceutical Chemistry. By George Robertson, F.C.S. London: S. F. Hodsoll.

This excellent manual will be appreciated by students who have to attend classes of practical chemistry. It is well arranged, and though the number of pages are only fifty-eight, yet the author has, by the avoidance of padding, given as much matter as is required for those subjects, a knowledge of which is demanded by the examining boards. The plan followed by the author is a very good one; the instructions are clear and easy to be followed, and if we give a sample this will be seen. We take "Morphine," Its extraction from opium is first considered, the ingredients are given, then the various steps are repeated, *e.g.*—

"Morphine (its extraction from opium) C_{17} H_{19} NO_3 H_2O.

Take of—

Opium sliced	1 ounce.
Chloride of calcium	20 grains.
Purified animal charcoal	7 grains.
Solution of ammonia, Distilled water	of each a sufficiency.

Macerate the opium for twenty-four hours with two and a half ounces of the water, and decant. Repeat the process with the same quantity of water. Subject the insoluble residue to strong pressure. Unite the liquors. Evaporate in a water bath to the bulk of one and a quarter ounces, and strain through calico. Pour in now the chloride of calcium, dissolved in two fluid drachms of distilled water, and evaporate until the solution is sufficiently concentrated to become solid on cooling. Envelope the mass in a double fold of strong calico, and subject it to powerful pressure. Triturate the squeezed cake with about half an ounce of boiling distilled water. Throw the whole upon a paper filter, wash the residue well with boiling distilled water. Filter, evaporate, solidify, and cool as before, and again press the mass. If still much coloured, repeat the process a third time. Dissolve the pressed cake in three fluid drachms of boiling distilled water, add the animal charcoal, and digest for twenty minutes; filter, wash the filter with boiling distilled water, and to the filtrate add the ammonia in slight excess. Pure crystalline morphine separates as the liquid cools. Collect this on filter paper, and wash with cold distilled water till the washings are no longer precipitated with solution of nitrate of silver, acidulated with nitric acid."

In short notes the reason for these steps are given, and then the tests are minutely detailed, after which we have an admirable description of the process of how to estimate the quantity of morphine in opium. By the student working at a bench in a laboratory these directions will be readily followed out and committed to memory, and may prove of life-long service. The book is published at a very cheap price; moreover, being interleaved, the student can himself jot down any notes he may deem fit.

Short Notices.

Aids to Ophthalmic Medicine and Surgery. By J. Hutchinson, Jun., F.R.C.S.

There is a great tendency in this age to the multiplication of books for students, short and easy roads to success in examination. On no other ground could this book have been written. For the practitioner, or for the student, really anxious to obtain a knowledge of the affections of the eye, its descriptions are too short to be of much value. Still viewed as a purely elementary work, it is well arranged, and covers a deal of ground; some of the more common diseases, those of the cornea, conjunctiva, and iris, are well described, but it is impossible to treat adequately such a subject as the refraction of the eye in a few pages of a small manual. W. T. Holmes Spicer, F.R.C.S.

Note-book for the Examination of Eye Diseases. Arranged by A. Maitland Ramsay, M.B., C.M.

This is primarily a case book for the use of students commencing the study of diseases of the eye, but it offers in addition a well arranged scheme, by which ophthalmic cases may be systematically observed and recorded. The three parts of the book are for external diseases, errors of refraction, and diseases of the fundus oculi respectively, and at the end there is a useful appendix of formulæ. Everything needed for making a complete record is contained in the book; it would have been better if more space had been allowed for errors in refraction, as these must form a large proportion of the cases. W. T. Holmes Spicer.

The Provincial Medical Journal,

JUNE, 1889.

IN the *Union Médicale*, May 2nd, there is an excellent *resumé* by M. P. RODAIT on the microbes found in discharges from the urethra. The micrococcus of NEISSER is now said to be the agent in classic blenorrhagia, but a great number of other organisms have been found in urethral discharges. What these are may be learned from the following abstract of M. RODAIT'S communication:—

M. STRAUSS has reported a case of a boy who entered the service of M. MAURIAC at the Hospital Midi, for a urethral discharge produced by masturbation. The discharge appeared two days after the act, accompanied by a sensation of burning in the urethra, with all the symptoms of blenorrhagia. The patient denied that he had ever had any relation with a woman. M. STRAUSS made four examinations at intervals on the pus, finding typical gonococci, tested by appearance and by micro-chemical reaction corresponding with preparations made from a typical case of blenorrhagia. If the veracity of the patient be accepted, and if, on the other hand, we admit the fact reported by M. STRAUSS, we must accept the view that blenorrhagia is not a malady rigorously specific, and may originate apart from contamination by an infective coitus. This is the theory of RICORD and FOURNIER, and which M. MAURIAC also admits. According to M. STRAUSS, it is probable that we have here something analogous with the pneumobacteria of FRAENKEL, and that the gonococcus of NEISSER may exist as an inoffensive host, and as a simple saprophyte in the canal of the healthy urethra, and that it may in these conditions, under the influence of irritation, invade the epithelium, and provoke the characteristic catarrh. As we have said, NEISSER'S micrococcus is the agent of classic blenorrhagia. M. LEGRAIN has found it in the thick, glazy mucus on the lips of meatus from the very commencement of the affection. The liquid is then only composed of epithelium cells of the anterior portion of the urethra, and filaments of mucine; the cocci are found on the surface of the cells. Later on, the parasite invades the subepithelial bed of the mucous membrane, and develops in the globules of pus, finally coming to the surface. Microchemically, the gonococcus is characterised by a reaction first signalised by ROUX, of Lyons. In blenorrhagia it is constant in the pus, and exists also in blenorrhagic ophthalmia, and according to VINAY, in all the ophthalmias of the newly-born, from whence this conclusion may be drawn—that the method of CREDE should be employed in all maternities. ROUX (*Province Médicale*, 1889, p. 49) has collected the cases in which the gonococcus has been met with in the different complications of blenorrhagia:

HARTELOUP and JULIAN found it in the fluid of the *Junica vaginalis;* CORNIL and BABES in the *tendenous sheaths* and *articular synovia;* PETRONE in a knee attacked with arthritis; JULIAN in the blood. The blenorrhagic pus of woman contains it, but mixed with a number of other micro-organisms, so that the application of the method of GRAM, for its discovery, becomes difficult. The medico-legal expert may have to examine cases to find out the organism of NEISSER. M. ROUX recommends the following plan:

(1) Pus is placed on two slides, but the lamellæ must not be rubbed together, otherwise the micro-organisms in the cells would be very difficult to find.

(2) The lamellæ, dried and passed through a flame, is placed face downwards in the following bath:

Aniline solution	Aniline oil ..... 3 cc.	5 cc.
	Alcohol at 50° ..... 7 cc.	
	Water .....90 cc.	

Hydro-alcoholic solution of methyl blue, 10 drops.

Leave two or three minutes in the cold. Make a first examination with this simple colouration.

(3) Wash the lamellæ in water, and bathe for two minutes in GRAM'S liquid:

Iodide of potassium	2 grammes.
Iodine.....	1 gramme.
Distilled water	100 grammes.

(4) Remove excess of iodine, and place in absolute alcohol until there is complete discoloration.

(5) Wash in water, and stir for two or three minutes in an aqueous concentrated solution of ordinary eosine.

(6) Dehydrate, clear, with essence of girofleur, and mount in balm of zylol.

These details may appear minute to those who are not familiar or acquainted with bacteriological research, but their execution does not take more than twenty to twenty-five minutes. After the action of the GRAM solution and the eosine, the preparation takes a rosy tint, the cocci are discoloured, and other microbes are coloured more clearly. In legal medicine the presence of the coccus of NEISSER may have to be established. M. ROUX'S method gives the best results for the urethral pus of man. In women we meet with the cocci, as well as a considerable number of micro-organisms. WINTER has described thirty-seven varieties found in vaginal mucus. Search for the specific coccus must be made in the clothing. LOHEN, in cultivating the coccus of NEISSER on agar-agar, believed that it liquefied, but his culture was impure. BOCKHART, KREIS, and LEGRAIN have obtained pure cultures on gelose and gelatine. Cultures have been inoculated on man and animals. Whilst BOUCHARD, LEGRAIN, and others, appear to have failed, BOCKHART, BOKI, and WELANDER, have succeeded. In the case of BOCKHART, one of general paralysis, at the autopsy there was found, besides lesion of the urethra, abscess of the kidney, which contained gonococci. The other micro-organisms met with in the urethra must be studied. The *Micrococcus diplococcus subflavus* has been described by BUNN. It was met with in vaginal mucus and lochia, vesical catarrh, abscess of the breast, healthy urethra, vaginitis, etc. The *Micrococcus citreus conglomeratus* has been recognised by BUNN and LEGRAIN in blenorrhagic pus. PRONE has described the *Micrococcus*

ochroleucus. The normal urethra contains the micro-organisms of suppuration, the *Micrococcus pyogenes aureus*, *Miorococcus pyogenes albus*. They exist also in the urethrites of scarlet fever, blenorrhagia, etc. Legrain has described a white micrococcus with foliaceous colonies, which presents itself under the form of diplococci, forming masses of ten or fifteen. The non-liquefying yellow diplococcus is not common, and may be regarded as living as a saprophyte. Some of these species have been described by Lustgarten and Mannaberg in their microbes of the normal urethra.

The *Micrococcus lacteus flaviformis* has been found in the vaginal secretions, and the *Micrococcus albicans amplus* in the vaginal mucus, and simple urethritis. Segram describes some bacilli, which he numbers 1, 2, 3, which are rarely found in urethral pus, and do not seem pathogenic. Finally he signalizes the *Spirillum roseum*, which forms red colonies, and which he twice observed in cultures of pus taken from chronic discharges. The development of blenorrhagia in man takes place in the following manner: The parasites deposited on the meatus encounter there a very thick epithelium, upon which they fertilize. Perhaps here we have an explanation of the theory of incubation, for the micrococcus only develops well in the globules of pus. The epithelial cells desquamate, allowing the parasite to penetrate into the chorion and thence into the lymphatics; then true suppuration commences, propagating itself little by little to the deep parts of the urethra, always following the course of the lymphatics. At the close of the malady, either because the soil is exhausted or the pathological modifications of the tissues render them unsuitable to the growth of the parasite, the latter returns to the superficial parts of the mucous membrane, and localizes itself on the surface. Chronic urethritis is then established. This condition has given rise to very interesting researches on the part of Legrain, who has examined the tenacious discharges which are the despair of the patient and of the physician. He has established that the micrococcus of Neisser is either wanting, or only exists in small proportions relative to the other micro-organisms. Thus, in certain individuals treated by instillations the rebellious gleet which exists encloses in the midst of epithelial *débris* an enormous quantity of microbes, which live normally on the mucous membrane. We may then ask whether the gonorrhœal micrococcus has only in these cases a secondary importance, the important *rôle* being played by saprophylic bacteria? As it is often difficult to recognize in chronic discharge the micrococcus, Legrain modifies the method of Roux. If the lamellæ placed in contact with the iodurated solution be treated by ordinary alcohol, the elements of blenorrhagic pus are discoloured in the following order: protoplasm of the globules of pus, protoplasm of the epithelial cells, nuclei of the globules of pus, nuclei of the epithelial cells, gonococci, accessory bacteria of the urethra. In allowing a drop of alcohol to flow on the lamellæ part of the preparation is discoloured, leaving all the bacteria coloured. The plate is then placed under the microscope and the point examined. A drop of alcohol is introduced, and if there be any gonococci at this point they will be found to disappear. An infective character has been attributed to blenorrhagia, and a great number of manifestations have been said to have been introduced by it. A number of old observations must be rejected, for failing cultivation we can only affirm the presence of the gonococci by the following: 1. Its form in diplococci. 2. Its presence in mass in the interior of leucocytes. 3. Decoloration by the method of Grain. The last character has only been indicated by Roux at the end of 1886. As the two first characteristics belong to other pathogenic microbes this method is essential. Now Legrain, after Ehrlich, Vogt, Petrone, Kamnerer, etc., have not been able to discover the special micro-organism, examining, according to these principles, fluids from the complications of blenorrhagia and the blood of patients suffering from this affection.

In peri-urethral abscess, etc., he has only found the *Micrococcus pyogenes aureus*, *Diplococcus subflavus*, *Pyogenes albus*, *Lacteus flaviformis*. Gerheim (*Verhumdlengen du Physik Medicin Gesellschaft zu Wursburg*, xxi.) admits that (1) blenorrhagia is an affection purely local, which can only develop on cylindrical epithelium; (2) that all the inflammatory processes which are attached to blenorrhagia are the result of secondary infection. Barnemann ("These de Copenhague," 1887) had only negative results in three cases of blenorrhagic rheumatism when he sought for the blenorrhagic organism. He also thinks that the affection results from penetration into the organism of the habitual agents of suppuration, which have availed themselves of the way opened by the gonococcus. Legrain admits, as demonstrated, that non-infective urethritis may supervene after coitus. In one case which he observed the woman had, some time previously, a peri-uterine phlegmon, and in the pus of the urethra he found the *Micrococcus aureus albus* of Passet. On the other hand, a large number of urethrites may develop in consequence of agents directly introduced into the urethra—sounds, powders, etc.; as the result of the actions of irritant substances contained in the urine, cantharides, nitrate of potash, iodide of potassium, arsenic, beer. In the first case we find in the pus the ordinary agents of suppuration, principally *Micrococcus pyogenes aureus*. Spite of antiseptic precautions, it sometimes happens that a sound retained in the urethra produces a discharge. This may be due to the irritant action of the sound, favouring the penetration into the mucous membrane of some of the microbes which normally exist on the surface of the urethra. In the second case either the substances contained in the urine are themselves pyogenic, or, by irritation, they also favour the penetration of the bacteria of suppuration. Again, there are tubercular urethritis, typhoidal urethritis, etc., so that the difficulty becomes great. The conclusion of M. Rodait, after all this display of learning, may deserve the application of a very old proverb: "Great cry, but little wool, as the man said when he sheared the pig." But we

must remember that we are expected to be posted up in bacterial literature, or we are out of the pale of medical society, and it is just as well to know the latest literature of what has been termed the "little beast"—otherwise the gonococcus of NEISSER. One conclusion only appears to us clearly to result from all the researches we have just enumerated—that is, that for blenorrhagia as well as for many other affections the discovery of the microbe, far from explaining everything, only forces us to extend the circle of our investigations."

THE Council of the British Medical Association have met the petitioners in a way that causes us a litte surprise. In future the editor of the *British Medical Journal* is to be dry-nursed; or, more technically expressed, he is to be placed under the care of a couple of assessors, to whom will be submitted each week his editorials, paragraphs, and, in fact, all the matter of the journal. This is a press censorship in an almost new form, and our surprise is that the editor himself should have suggested this plan. Whatever may have been his reasons, the matter now stands that these censors will be paid so much a week, and will have the power of rejecting or cutting out any portion of the work submitted to them. The scheme appears to us utterly impracticable, though of course it is premature to pronounce an opinion till it is tested. The advertisements will also form part of the reforms, so that the censors are not likely to have a sinecure in their office if they discharge it accurately. The memorialists made some general charges, and suggested several reforms, to which the Council have made a general defence. Before replying, we consider it would have been more judicious on the part of the Council to have asked for particulars as to the advertisements complained of, and for the reasons why the petitioners required the reviews to be signed. Specific charges should have been brought forward, and then the Council should have considered them in detail, and given their answer. It does not alter the position of affairs to appoint press-censors. The question narrows itself down into two or three points.

1. Are there any advertisements at present in the *British Medical Journal* which should not be published in a representative journal?

2. Would it be better to have the reviews signed?

3. Would it better to have the leading articles signed?

These are questions which may be considered without in any way insulting the Council, or damaging the Association. It does not meet the difficulty to say to the memorialists: "We consider you have ground for complaint; we shall be *more* careful in future; and to prevent the editor making any more mistakes, he shall have the assistance of two practitioners of repute."

It is true that the Council have made a general defence of the system adopted in regard to the reviews and leading articles, but they have not gone to the bottom of the matter. The expense involved in the new arrangement will hardly compensate the two referees, though it means expending a couple of hundred pounds belonging to the Association; whilst the benefits of the arrangement are problematical. The editor stands, or should stand, in the position of captain of a ship. He should know his work, and be trusted; he should have definite views and a policy, and should disregard, where principle is concerned, all personalities and *cliques*. He could not be expected to please every member of the Association, but in following principles of truth and justice in his editorial policy he would be sure to please the majority. Take, for instance, the articles on the College of Surgeons, which have given so much offence. Here the editor could not regard the personal equation of the eminent men who were setting at defiance the very first principles of justice. His policy was honest and clear. He sided with a principle recognised by all legislators, that representation and taxation should go together. Progress means change. The days of oligarchies are numbered, and in attacking the old-fashioned advocates of the *status in quo*, he was echoing the views of the larger number of the Association. The greatest happiness of the greater number is a principle applicable even to the very conservative profession we belong to. If the editorial backbone be removed, and he is simply to become the mouthpiece of a couple of respectable mediocrities, then the journal will sink in value, and even respectability, greatly to the advantage of its rival the *Lancet*; for, behind the scenes, there would seem to be some wire-pulling, which might possibly be attributable to a desire on the part of that very actively-managed journal not to allow the *British Medical Journal* to keep its lead.

IN medicine, certain terms or words have for years passed current, and we have been content to throw these words at our patients in explanation of their symptoms. We relieved our own consciences at the same time, because, if the truth were told, the words used only served to conceal our ignorance. A general term like "congestion," or "pelvic cellulitis," covers a multitude of conditions: it may mean anything or nothing; but though advantageous to shield ourselves, in scientific medicine we want something more. What is pelvic cellulitis? Thanks to the new school of gynæcology, and to the vigorous intellect and operative skill of TAIT, we have, during the last few years, not only had to review our knowledge of the conditions observable in the pelvic cavity, but we have been able to differentiate those conditions, which were formerly classed under one common heading. "Spasm"—a general term, very frequently applied—has lately resolved itself into gall-stones. The operation of chylocystotomy has started into life, and now spasm is being relegated into the limbo of forgotten words. Pelvic cellulitis appears likely to share the same fate; and as an index of what is taking place, not only in England, but in America, we direct attention to the views expressed by Dr. CUSHING, of Boston, on the words we have chosen as a peg to hang some remarks on.

In a paper read before the Massachusetts Medical

Society, entitled, "The Pathology and Diagnosis of so-called Pelvic Cellulitis, with Specimens of Salpingitis." Dr. Cushing tells us that it is not easy to understand what is meant by pelvic cellulitis, but the general view is something like the following: The course of the cellular tissue in the pelvis is pretty well known. Areolar tissue, loosely connected, runs between the folds of the ala vespertilionis up along the psoas muscle, inwards round the cervix, and between it and the bladder, outwards to the inguinal ring, and downward between the rectum and vagina. Now this is precisely the course taken by the pelvic collections of pus in seeking for an outlet; and when, on examination of a patient, a mass is found laterally and posteriorly to the uterus, nothing is more natural than to suppose that the hard mass is in the thickness of the broad ligament, and thus entirely outside of the abdominal cavity, below the peritoneum. If the mass enlarges, it would be held that the peritoneum lining the *cul de sac* of Douglas is lifted up, still leaving the effusion of lymph extra-peritoneal. If after death the ovaries and tubes are found diseased, it was urged that they were bad cases, and therefore fatal. If the pelvic peritoneum be inflamed, it is held to be by extension of the disease from its point of origin, between the folds of the broad ligament, around the blood-vessels and lymphatics. This Dr. Cushing understands as the doctrine of cellulitis or parametritis; but he asserts, it is fascinating, but false, except, perhaps, in certain puerperal cases, where a rent, extending at the side of the cervix right into the areolar tissue, may become septic, like any other wound. Dr. Cushing asks: "How shall we explain the symptoms? If the mass or masses which we feel are not in the broad ligament, where are they? If not effusions in the areolar or cellular tissue, what are they?" He answers his questions:

"In answering, I will premise that I am well aware that, in one sense, the tubes and ovaries are between the folds of the broad ligament; but when speaking here of the broad ligament, I mean that part of it which comes up to the limit of the side of the tube, or to the hilum of the ovary—regarding these organs as practically in the general cavity of the abdomen, like the fundus of the uterus itself. I answer, then, that the mass as felt is in the pouch of Douglas, behind the broad ligament, or laterally at the side of the fundus uteri, or even sometimes on one side posterior and on one side anterior to the latter. What is the mass? It is a distended tube, or tube and ovary, which may or may not be imbedded in a mass of lymph more or less recent. In bad cases there may be pockets of serum or of pus outside the tubes, but yet within the cavity of the peritoneum, above the latter, and roofed in by coils of intestine matted together and lined with lymph, which may form a strong and smooth membrane, a sort of sac for the abscess. If the areolar tissue is entered, it is secondarily while the abscess is finding its way out along the lines above described. The diagnosis is to be made between this condition, with its various subdivisions, and the tumours proper and cysts which are found in the same locality. These comprise—distended tube and its complications: hydrosalpinx; hæmatosalpinx; pyosalpinx; tubercular salpingitis; tubal pregnancy; abscess between tube and ovary surrounded by sac; serous collection in pouch of Douglas adjacent to tube, and roofed in by adherent intestines; pus pockets in the same locality as the last, but usually more thoroughly enclosed by a wall of lymph. Tumours or other possible conditions: parovarian simple cyst; parovarian papillomata; small cystic tumour of ovary; small dermoid cyst; fibroid tumours of uterus; fæcal collections; hæmatocele (intraperitoneal); cellulitis proper: periproctitis and perityphlitis; psoas abscess, descending; abscess around vermiform appendix, descending; infected wound of cervix and vagina. Inflammation of hæmatocele (extraperitoneal), or of tubal pregnancy (after rupture between the folds of the broad ligament). The differential diagnosis of the above affections is often difficult, and sometimes impossible, without an exploratory incision. Very frequently two or more of them are combined—*e.g.*, the chief cause of suffering in a case of fibroid (myoma) of the uterus may be, and often is, a complication with pyosalpinx. So also a tube in a state of moderate catarrhal salpingitis may, when nearly healed, become the abode of a tubal pregnancy, and this in turn may, by rupture, lead to a pelvic hæmatocele, and to severe attacks of pelvic peritonitis."

Dr. Cushing enters fully into the diagnostics of these varied conditions, contending that his view explains the real nature of pelvic cellulitis. The part played by gonorrhœa in the production of tubal disease is well emphasized in this paper. He says: "The immense importance of gonorrhœal infection in causing tubal disease is becoming more and more appreciated, both by the profession and the public, and the erring husband who hereafter infects his wife will receive the execration he deserves. An important duty rests on the members of the profession in duly impressing on men the danger of infecting their wives even after they themselves seem to be cured."

Dr. Cushing's paper should be read in full, as well as the excellent discussion which took place upon it. As Dr. Sinclair truly said: "The subject is intensely broad. I do not know of another in the whole domain of gynæcology that is wider and more interesting." The paper and discussion will be found in full in the *Journal of the American Medical Association*, April 20th, 1889.

The *New York Medical Journal* of April 27th, in an article on "Orthopædic Surgery in England and the United States," passes some severe but unsupported strictures on the barren state of English orthopædic surgery. We are gravely told with charming frankness that we are just thirty-five years behind the United States. This may surprise those of our readers who pay careful attention to current literature, and who are apt to believe that the so-called American school are only united in disagreeing the one with the other. We are willing to admit the

laboured submission that there is in America a greater tendency to the specialisation of orthopædics than is manifested in this country; but the corollary that in consequence a greater progress has resulted is absolutely devoid of justification. English surgeons believe, and with much reason, that there is nothing calling for special training in orthopædic surgery, and a close study of the American standard essays does not in the least tend to lessen this conclusion. The author of the article in the *New York Medical Journal*, however, is badly infected with what Mr. HERBERT SPENCER would term the "bias of patriotism," and can see no merit in any joint apparatus which fails in allegiance to what is erroneously termed the American method of extension. We say *erroneously*, for the very simple reason that in the use of traction for joint diseases Sir BENJAMIN BRODIE preceded by some years Dr. H. G. DAVIS, of New York, to whom American surgeons ascribe the merit of discovery. In the fifth edition of his work on "Joints," published in 1850, BRODIE says: "In some cases I have endeavoured to prevent it (dislocation of head of femur) by the application of a moderate but constant extending force." He adds: "It may be worth while to give this mode of treatment a further trial." True it is that this careful and reliable clinical observer found occasion, after more extended trial, to discontinue its use, but what merit there exists in its introduction must not be carried across the Atlantic. At a much earlier date than this, JAMES, of Exeter, first demonstrated the value of traction when employed in certain fractures. Clearly, therefore, the American claim to the so-called American method requires precisely that revision with which it is best to meet an error of fact.

The article, however, has been inspired by a pamphlet written by Mr. THOMAS, of Liverpool, and entitled, "An Argument with the Censor of St. Luke's." The precise circumstances which called forth the polemic we will refer to in a future number. Suffice it to say, that we fully sympathise with Mr. THOMAS'S endeavour to cast discredit upon a species of intolerance which would not for one moment be permitted in this country, and which culminated in the enforced resignation of Dr. JOHN RIDLON from the surgeoncy of St. LUKE'S, because Dr. SHAFFER did not approve of any deviation from what he was pleased to misname the *American* method.

The writer of the article we are discussing is evidently very ignorant of Mr. THOMAS'S splint and of Mr. THOMAS'S principles. A very few instances of misrepresentation will suffice. The late Dr. HUTCHINSON, of Brooklyn, is referred to as if he preceded Mr. THOMAS in the use of patten and axillary crutches. It is needless to remind our readers that this is hopelessly erroneous. But when the writer further points a resemblance between the THOMAS and HUTCHINSON methods—although the latter advocated no splint, but merely allowed the limb to become a pendant—serious criticism becomes very difficult. In proof that the writer has never seen a THOMAS'S hip-splint properly applied, we need only draw attention to his description of the upright as "extending to the lower end of the thigh bone." There is not an intelligent student of three years' standing capable of so elementary a blunder. It is stated Mr. THOMAS claims that his hip-splint absolutely immobilizes the joint. We have his work before us, wherein he distinctly states that he regrets his inability to attain perfect rest for the joint. Absolute immobility he cannot get, but he secures as much as he can, and more than is to be obtained by using any other splint. When he is charged with too mechanical a view of the subject, a very scant knowledge of his principles is evinced. Over and over again he has asserted that he lays stress, not upon a mere apparatus, but upon those principles which give to any splint its power for good or evil.

THOMAS differs from SHAFFER on many points, but the salient differences are concerning rest and extension. The one looks upon the terms as almost convertible, the other as dangerously antagonistic. SHAFFER thinks that by pulling upon the hip-joint the articular surfaces are separated, and inter-articular pressure relieved. THOMAS teaches that in the early stages of the disease, the greater the pull the greater the articular pressure; and a reference to the construction of the joint will at once demonstrate that the only way to relieve inter-articular pressure by extension, is to pull from its environment the lower segment of the acetabulum. The posterior hip splint is charged with making a fulcrum of the inflamed joint surfaces. If the writer could explain to us any method of reducing hip deformity, without using the joint as a fulcrum, he could indeed establish, with great show of reason, a peculiarly great American invention. In this country we are ignorant of any such method, and we are sufficiently heretical to believe that to reduce joint deformity it is absolutely essential to increase the inflammatory condition.

Mr. THOMAS'S pamphlet requires an answer, but the critic should at least possess an elementary acquaintance with the principles it advocates. It is not enough to give us vague and vain-glorious generalities about our national lassitude, nor to assume a superiority which is scarcely modest, and certainly not just. Surely a scientific question cannot be adequately or impartially discussed if the subject be made one of patriotism, and be thus reduced to an atmosphere redolent of childhood and of school. Nor is it quite frank to keep carefully in the background a species of hospital tyranny, which we feel sure must be abhorred by mostly all the many excellent American surgeons. Above all, no surgeon, however able, should for one moment allow himself to pose as the know-all and the end-all of surgical knowledge. There is no reason why freedom of opinion and action should stop short at surgery.

BAUER, who has done more for orthopædics in America than almost any surgeon, and who has been one of the pioneers of extension, writes thus in favour of THOMAS'S splint:—"All contrivances introduced by DAVIES, SAYRE, TAYLOR, ANDREWS, BARWELL, and *by us*, have been laid aside as worthless and directly obnoxious, because they procure extension, which is needless, and fail in

immobilizing the joint, which is indispensable." Such tribute, coming as it does from so distinguished a source, should compensate Mr. Thomas for any misrepresentation he may have to endure. We are not only willing but delighted to admit the earnest efforts which American surgeons are making to advance orthopædics, but with such names as Macewin, Ogston, Parker, Thomas, Noble Smith, Macnamara, and others equally prominent, we can scarcely rest content under the stigma of antiquity.

Annotations.

"Forsan et hæc olim meminisse juvabit."

APOSTOLI'S METHOD IN THE TREATMENT OF UTERINE DISEASE.

At a meeting of the New York Academy of Medicine (*New York Medical Journal*), Dr. Jacobi gave an interesting *resumé* of what was known of the results of this method. Dr. Jacobi said that exact stastistics were rather difficult to find, considering the wide-spread reputation of the method. Carlet's thesis contained an account of ninety-four cases. In five of these the tumours had been very large, rising nearly to the ziphoid cartilage, and had been treated partly by galvano puncture. In one this treatment had not lasted long, and no result had been reached. In four, after from a month to a year of treatment, the relief obtained had been considerable as regards symptoms, and the tumour in one case had diminished three fingers' breadth, but much less in the three others. Eighty-nine cases had been treated exclusively by intra-uterine cauterization and positive and negative poles. In two of these pregnancy had been unrecognised, and abortion had resulted; in one there was subinvolution, and in one incipient cancer. Four cases of sub-peritoneal fibroid had been treated; in the first of these relief had been obtained after a month, and the length of the uterine cavity had been reduced from thirteen to twelve centimetres; in the second the tumour had risen above the umbilicus. Single cauterizations had been followed by an abscess, which had been open through the abdominal wall, but also by some diminution in the size of the tumour. In the third the tumour had reached nearly to the Ziphoid cartilage, and the cavity of the uterus had measured twenty-one centimetres. Fifty-two cauterizations, given during a year and a half, had been followed by an entire relief of symptoms, and a reduction of the cavity to twelve centimetres. In the fourth the tumour had risen above the umbilicus; the symptoms of the patient had been entirely relieved, but without diminution in the size of the tumour. In four cases of interstitial fibroid, treatment of short duration had given negative results in three, but in the fourth the length of the uterine cavity had been reduced from fourteen to twelve and a half centimetres. The seventy-seven remaining, afforded from their description no adequate proof of the existence of a tumour. The descriptions given correspond rather to chronic metritis. In forty-seven of these cases entire relief of symptoms and some reduction in the depth of the uterine cavity had been obtained. In thirty cases the results of treatment had been negative, but in several instances a pre-existing perimetritis had been seriously aggravated by the intra-uterine cauterizations. The net result went to show that the Apostoli method was valuable in the treatment of chronic metritis, or for the relief of the symptoms caused by small fibroids. It seemed in a few cases to have occasioned a certain diminution in the size of large tumours, but beyond this Apostoli had published no positive results.

Dr. Keith, of London, spoke enthusiastically of the method, but gave no statistics, only stating that he had made twelve hundred applications to one hundred patients, a proportion to each patient which was scarcely large enough to judge of the value of the method by. Engelmann, of St. Louis, in an elaborate paper on the theory of the method, did not give the history of a single case. Martin, of Chicago, had stated that he had seen tumours from the size of an apple to that of a cocoa-nut disappear under treatment, but gave no details. Everett, in the *New York Medical Journal* for April 18th, 1885, had given a list of seventeen cases of undoubted tumours treated by the intra-uterine method. In three of these, polypoid tumours had been extruded after external faradization of the abdomen. In two cases submucous fibroids had been said to be cured after intra-uterine faradization lasting in one case nearly four weeks and in the other three months. In three cases pedunculated tumours had come down to the os externum under the influence of faradization and had then been removed. In six cases galvano-puncture had been employed. In two of these patients recovery had afterward been obtained by laparotomy and excision, in one by the extrusion of an interstitial fibroid into the uterine cavity, in two life had been terminated by cancer, and in two by tuberculosis; finally, in one there had been a dangerous collapse, but the patient had recovered and shrinking of the tumour had followed. Freeman, using Cutter's method of galvano-puncture through the vagina and abdomen simultaneously, had met with four deaths in a series of fifty cases, and had reported three successful cases. Webb, an enthusiastic observer in Apostoli's clinic, had related the history of three remarkable cases of sub-peritoneal fibroids. The first had filled the abdomen up to the sternum; after three galvano-punctures and thirty-eight intra-uterine negative cauterizations during a period of eighteen months, the upper border of the tumour had come only to within a hand's breadth of the sternum. In the second case the tumour had risen two inches above the umbilicus. Fifteen galvano-punctures during a period of eleven months had caused it to fall to a point two inches below the umbilicus. In the third case metrorrhagia had entirely ceased after the fourth puncture. Dr. W. H. Baker had been quoted by Dr. Buckmaster as having said that in one case he had seen a tumour entirely disappear

after treatment by galvano-puncture, and in twelve cases shrink to from a third to a half of its former size. Dr. Massey, in his recent volume on the use of electricity in pelvic diseases, had reported two cases of his own in which subperitoneal fibroids had been reduced to two thirds of their original size with full relief of symptoms, one case in which a submucous mural fibroid was extruded after thirty-eight galvano-chemical cauterizations, one case in which a small submucous fibroid was cured after thirteen applications, and four cases in which intramural fibroids had been much reduced in size. He quoted Holland as having caused sloughing and complete enucleation of a tumour reaching to the umbilicus, after nine cauterizations given during one month.

THE LATEST RESULTS OF THE PASTEUR INSTITUTE.

WE shall continue to chronicle each month the deaths. (See p. 294, May, 1889.)

CASE VIII.—Arenes, æt. fifty, bitten at Solez, Spain, 26th January, 1889. Treated at the Institute from January 29th to February 15th. Died at Hotel Dieu, February 22nd. Period of incubation eighteen days. Was the evolution of the malady hastened by the intensive treatment? This is an hypothesis certainly as worthy of attention as any of the hypotheses suggested by M. Pasteur.

On February 4th, 1889, an Austrian, an Italian, and four Egyptians were bitten by a dog supposed to be rabid. The Italian was sent to the Naples Pasteur Institute, and was treated according to the method. The child died on April 5th of hydrophobia. The three others are in perfect health. Of course the child that died was the worst bitten? No! The others were bitten on face, arms, and thigh; the child that died was bitten on the right arm.

MEDICAL MATTERS IN HOMER.

MEDICAL men at one period were distinguished by their attachment to the classics; now all this is changed, no doubt due to the reaction against the old system of education. We cannot here go over the old arguments as to the relative value of the old and new systems, but for the benefit of those who still have a regard for the classics, we give an abstract of an able paper by Dr. Kums, on Medical Matters as contained in the pages of Homer (*Progrès Medical*, May 4th). Kums takes us back to the heroic age, and to the grand old poem which is ever fresh, though many great singers have sang to us since. From the poems of Homer we learn that there were army surgeons with the Greeks—the two sons of Æsculapius, Machaon and Podalyonus, who were distinguished practitioners. Machaon was probably an ancester of the MacMahons, who afterwards settled in Ireland, and of whom many were fighters and surgeons. This may be said to be a stretch of imagination, but looking at the names, the derivation is simple. Machaon was as fond of giving a blow as of healing a wound—a trait which his descendants still possess. Achilles and Patroclus appear to have possessed medicines; but medicine for internal remedies was not much used. For wounds by arms the Greeks were well prepared. They sucked the wounds to make them aseptic, and then poured in healing balms. The balm which Archilles possessed served as a medicament, and also prevented putrifaction in the body. Sulphur was employed for purification. The beautiful Helen possessed an elixir, brought from Egypt, a few drops of which mixed with drink dispelled all pain. The philter of Circe was celebrated, as well as the fruit of the Lotophages, which resembled opium in its action. Wine enjoyed a great *role*. When Nestor brought the wounded Machaon into his tent, he made him drink. Wine took the place of the anæsthetics we use in modern times. Sleep and dreams are treated of by Homer. Dr. Kums' interesting study is published in the *Annales et Bulletins de la Societie de Medicine d'Amiens*.

ARMY AND NAVY MEDICAL OFFICERS.

SIR GARNET WOLSELEY must have had the medical officers of the army and navy in his mind when he wrote the following in the *Fortnightly Review*:—"How many soldiers and sailors have died nobly, whose very names have been forgotten because they have found no poet, no historian, to record their noble actions! How many have survived to find their achievements attributed to others, or at least to obtain neither reward nor recognition! This is a reflection that must make many blush whose deeds—perhaps less commendable—have been trumpeted in despatches, and loaded with honours and rewards. Many indeed, have been the brave men who, after great services to the State, have died in peace unknown to fame! Their pride and modesty combined to prevent those services being recognised by the country they loved and served so well."

THE COMMISSION ON VACCINATION.

THE Commission on Vaccination may clear the atmosphere a little. It all depends on the witnesses. The following are the points to which the attention of the Commission will be directed: (1) The effect of vaccination in reducing the prevalence of and mortality from small-pox; (2) what means other than vaccination can be used for diminishing the prevalence of small-pox, and how far such means can be relied on in place of vaccination; (3) the objections made to vaccination on the ground of injurious effects alleged to result therefrom, and the nature and extent of any injurious effects which do, in fact, result; (4) whether any, and, if so, what means should be adopted for preventing or lessening the ill-effects, if any, resulting from vaccination, and whether, and if so, by what means vaccination, with animal vaccine, should be further facilitated as a part of public vaccination; (5) whether any alterations should be made in the arrangements and proceedings for securing the performance of vaccination, and in particular in the provisions of the Vaccination Acts with respect to repeated prosecutions for non-compliance with the law.

INSANITY AS THE RESULT OF GYNÆCOLOGICAL OPERATIONS.

Dr. T. Galliard Thomas was mistaken in asserting that "there was no literature in this respect previous to 1887," and he can hardly be credited with being the first to describe a new form of insanity after gynæcological operations. It is quite true, as Dr. Shelley points out in the *Medical News*, Philadelphia, April 27th, that Mr. Lawson Tait in 1884, in a lecture at the Jefferson Medical College, published in *Medical News*, September 27th, 1884, fully described this condition. He said in 1884: "Removal of the uterine appendages. . . . After the operation. . . . So far we have not had any trouble, except *from one thing, and this a distressing one.* It occurs after all sorts of abdominal operations, after exploratory incisions, after the removal of one ovary for cystoma, after the removal of both ovaries for cystoma, and after hysterectomy. I refer *to the occurrence of acute melancholia.* All the cases of mental alienation that I have seen following these operations, are seven in number, and all have taken the direction of this most unfavourable form of insanity—acute melancholia. I cannot say that any one of them is likely to recover. I do not know that this is a necessary result in a certain number of cases. I have performed abdominal section some 960 times, and in this number I have met with seven cases of acute melancholia. Of course, a good many of these cases died, especially in the earlier years of my practice. We may state that acute melancholia occurs in about one per cent. of those submitted to abdominal section. I do not know that anything like this follows other surgical operations. This is the only after-result of an objectionable character with which I am acquainted."

RABIES IN FRANCE DURING 1888.

"There is no country in the world," says the editor of the *Gaxette Hebdomadaire des Sciences Medicales de Bordeaux*, "which has more dog-bitten patients than France, and no country where, spite of anti-rabic inoculations, there are more deaths to deplore, due to rabies." This remark was called forth by a paper by Dr. Drouineau in the *Revue Sanitaire de la Province*, on the increase of rabies in France. Dr. Drouineau insists on the stringent application of the French Dog Laws found so effectual in parts of France. He concludes a very able paper with the following paragraph: "Je suis convaincu que M. Pasteur ne se croirait pas atteint dans sa réputation scientifique si les préfets, vigoureusement relancés par l'administration supérieure le privaient d'ici quelques années de son nombreux contingent d'enragés et si le Gouvernement en débarrassait une bonne fois son Institut. Il en serait quitte pour étudier d'autres virus ou d'autres microbes, et aurait encore la part belle. Mais pour nous, quel ennui de moins, et pour l'administration quel succès de faire échec à M. Pasteur! Hélas! pour tout cela, il faut aimer les hommes plus que les chiens et vouloir faire *effectivement* de l'hygiène publique."

FATHER DAMIEN.

Father Damien, whose heroic death among the lepers from that dreadful disease has recently taken place, was born on January 3rd, 1841, near Louvain, in Belgium, where his brother (a priest) still lives. His mother, a deeply religious woman, died about two years ago, and his father twelve years before. On his nineteenth birthday his father took him to see his brother, who was preparing for the priesthood, and left him there while he went into the town to dine. When he came back, young Joseph told him he did not wish to return home any more, and that as he had wished to become a priest so long, it would be better to miss the pain of farewell. His father consented unwillingly, but was obliged to hurry home. In 1873 he went to work among the lepers, his heart having been stirred by the report of the sufferings and disease of these poor unfortunates. No one can tell the good he has done. When he arrived at the settlement, it was a miserable place; the houses were wretched, undrained, and unventilated; the people ill-fed, ill-clothed, and worse washed. The water supply was very bad. The sufferers were desperate, and often led vicious and lawless lives. Now all these things are changed. Father Damien built a church, Government built neat cottages, and the water is brought in pipes from a never-failing water supply. Father Damien's house adjoined the church, and his comrade, Father Conrad, a man of considerable refinement and of warm affections, lives on the ground floor. Two laymen, Brother James and Brother Joseph, assisted him in the teaching, visiting, and other ways; and they were often in communication with Kalampapa, where live and work Father Mendolen and three Franciscan sisters. Father Damien always expected that sooner or later he would become a leper, though he could never tell exactly how he caught it; but it was not likely he could escape when he was constantly living in a polluted atmosphere, dressing the sufferers' bodies, visiting their death-beds, and even digging their graves. Many entreating letters were written him, to leave the place, now that he had done so much good; but all these he refused, preferring to die among the people for whom he had done so much.

THE ROYAL COLLEGE OF SURGEONS AND ITS MEMBERS.

The branches of the British Medical Association are almost unanimous in supporting the demands of the members for reform. The following stereotyped resolutions have been passed by a number of the branches:—

1. "That this meeting sympathises with the desire of the Royal College of Surgeons of England to take part in the management of the affairs of the College."

2. "That this meeting strongly approves of the reform of the Royal College of Surgeons of England."

These resolutions should not remain dead letters: they should be sent in each district to the respective Members of Parliament.

THE MEDICAL SICKNESS AND BENEFIT SOCIETY.

MR. NEISON, the well-known actuary, has just completed his analyses of the working of the above society during the last five years; and from his report, it appears that not only is the society in a sound position, but that it has a surplus of £6,000, which can be divided amongst the members, or applied in some way for the general benefit of the society. We have to congratulate the Management Committee upon the successful way they have piloted the society through the first five years of its existence. Copies of the report may be obtained from the Secretary, Mr. J. C. Radley, 26, Wynn-road, Brixton, London.

GENERAL PRACTITIONERS AND MEDICAL CHARITIES.

WE congratulate Mr. W. Moore, Stourport, upon the able manner in which he brought this subject before the members of the Worcestershire, Herefordshire, and Gloucestershire Branches of the British Medical Association, at the conjoint meeting held at Worcester on May 6th. It is quite true, as Mr. Moore suggested, that no apology was needed for bringing the subject up for discussion at the branch meeting of the British Medical Association. Mr. Moore could not say anything very new on this subject: the question is beyond the stage of discussion. The evils are admitted, not only by the profession, but by political economists. Pauperisation on a large scale is going on, and the hospitals are the chief agents at fault. It is for the bulk of the profession to agitate, and if they want any material to base their arguments upon, they have only to turn to the files of the *Provincial Medical Journal.*

DEGREES FOR LONDON STUDENTS.

THE Blue Book containing the evidence given before the Royal Commission on the proposed University for London will shortly be published. There is a growing desire on the part of the bulk of the profession to possess the title of M.D. The Scotch have hitherto enjoyed great advantages in this respect. The English, with their M.R.C.S. and L.R.C.P. qualifications, have been placed in an unjust position. It is an advantage to have a University diploma. Unfortunately, the corporations which grant the licences are very powerful, and the leaders in medicine are not only highly conservative, but obstructive. We have only reached the beginning of the struggle, but we trust it will be continued, and that London students will in due time be placed on a footing with their Scotch *confrères.*

SYRINGOMALIA.

THIS is a disease in which the cord contains cavities of abnormal size and distribution. There is a very good summary in the *Medical News*, May 4th, on the literature of the subject, from which we learn that as an anatomical curiosity it has been known for two centuries; as a type of disease it has only been clearly recognised during the last ten or twelve years. In Germany and France somewhat numerous contributions to its literature have been made during recent years; English and American medical writers have supplied but few. Gowers' "Treatise on Nervous Diseases," however, contains a valuable discussion on the pathology of the affection; and Starr, in May, 1888, published in the *American Journal of the Medical Sciences* an interesting summary of its literature, pathology, and symptomatology. Debove and Déjerine (*Gaz. Hebd.*, March 1st and 8th, 1889) have furnished two of the most instructive recent papers in the form of carefully detailed records of two patients who were exhibited before one of the French medical societies. The rapidity with which, in this age of medical enterprise, the literature of a subject grows is shown by the fact that five years ago Fürstner's collection of four cases, with autopsies, was quoted as a most valuable contribution to the subject; while in 1887, Bäumler had succeeded in collecting one hundred observations—sixty-six with autopsies and clinical histories, twenty-five purely anatomical observations and ten purely clinical cases.

THE BRANTHWAITE HOME.

WE have on several occasions alluded to the value of licensed houses under the Inebriate Acts. Managed by medical practitioners, who have a vocation for this class of work, institutions of this kind are powerful for good. The establishment at Halesowen, Worcestershire, known as "Colman Hill House," has for years been engaged in this good work, and under the management of Drs. Kerr and Dene, it has obtained a wide reputation. The house has lately been transferred to another medical man, who has for years been engaged in similar work. It is now carried on under the management of Mr. H. Branthwaite, F.R.C.S. Edin., Mrs. H. Branthwaite, and Miss E. F. Branthwaite. We have every reason to expect that under the personal influence of this family the institution will sustain its prestige.

THE NETLEY SCHOOL.

IT seems almost incredible that there should be any question at the present day on the advantages of training all medical military cadets at Netley, or that we should have to defend a system which has worked for so long and with such advantage to the British army. Pecuniary considerations, when the medical service is concerned, would appear to outweigh all others. The Indian medical officers who have uudergone a course of training at Netley, have gone out fully equipped, and India, thought it may gain pecuniarily, will, we fear, suffer in other respects if the training at Netley be abolished. As far as we can gather, some of the Indian medical officers are in favour of the latter step, but we have not seen any arguments brought forward in support of this reactionary policy. It would be unmilitary to take a plebiscite of the medical officers in India on the question, but we are inclined to think that if such could be done, the vast majority would say: "Spare Netley to us!"

THE GERMICIDAL TREATMENT OF DISEASE.

We have laid down as an axiom that *bacteriology should not be the master but the handmaiden of medicine*. Unfortunately, as with all medical fashions, this interesting study has developed into a kind of mania, and the search for micro-organisms has for a time so absorbed all other aspects of disease problems, that clinical medicine and therapeutics have been pushed into the background. When Virchow started his cellular pathology, the cell gave us a new insight into disease, but the cellular pathology was never pushed to such a degree as the microbe. It is undoubtedly important that we should know the cause of disease, and so far as micro-organisms are concerned, we must accept all evidence which tends to connect them with disease as causal agents; but medicine cannot advance simply on bacteriological lines. There were brave men before Agamemnon, and there were great advances made in medicine before bacteriology was ever introduced, by the great clinicians who studied disease at the bedside, and who by marvellous powers of analysis were able to interpret the symptoms presented by individual cases, and to weld them into a whole. A system of therapeutics was established by the clinicians, which stands good even at the present day, and which was grounded on observation and experience; theory or guesses did not form such an important part of the old system of medicine. The germicidal theory of the present day, which rests on bacteriology, would have been rejected by the old clinicians, because they would have tested it at the bedside and found it wanting. The treatment of phthisis, cholera, pneumonia, gonorrhœa, have not been advanced one iota by the discovery of the bacillus tuberculosis, the comma bacillus, Friedlander's bacillus, or the gono-coccus of Neiser. This is to be regretted, though it does not absolutely discredit the researches which have been made on these micro-organisms; it simply shows that we have room for therapeutical research, and that the bacteriological key is not the key to the treatment of disease. There is room for clinical research, apart altogether from bacteriology, and there is room for therapeutical research apart altogether from bacteriology. Thousands and thousands of physicians are daily treating disease with success, on lines which might be pronounced old fashioned. They would gladly abandon their system if the new school offered them a richer choice of remedies, and a more successful one.

New Remedies.

New chemical compounds appear to be in greater favour at the present time, as possible new remedies, than those derived from the vegetable kingdom. *Hydronaphthylamine* — or more correctly speaking, *tetra-hydro-β-naphthylamine*—is one which has lately been experimented with, and is proved to possess remarkable mydriatic properties. According to Professor Filehne, of Breslau, if a little of a 5 p.c. solution is dropped into the eye, it causes dilatation of the pupil in the eye treated only; but if more be used, or as soon as any has become absorbed, the other pupil dilates also. Its power appears to be greater than that of atropine, since after the pupil has been dilated by a maximum dose of that alkaloid, it can be still further dilated by a maximum dose of hydronaphthylamine. It does not paralyse the contracting muscle like atropine, but stimulates the nerve terminations connected with the dilating mechanism.

Exalgine is the name given to a new analgesic, antiseptic, and antithermic compound, which is stated to have the constitution of methyl-acetanilid. It is met with in the form of needles, or large white tablets, according to the mode of preparation. It is very soluble in water containing a little alcohol, but is only slightly soluble in cold water, although more so in hot water. It is given as an analgesic in the dose of 0.25 to 0.40 gramme, or 0.40 to 0.75 gramme, in two doses in the course of twenty-four hours. Gastro-intestinal irritation, rash or cyanosis, has not been observed to follow its use, as is sometimes the case with acetanilid and antipyrin, except that in one case slight erythema occurred. The toxic dose has been ascertained to be 0.46 gramme per kilogramme of weight of the animal, death resulting from paralysis of the respiratory organs. In non-toxic doses pain disappears, but the tactile sense remains. Its antiseptic and antithermic action are relatively less important. A little light appears to have been thrown on the relation between the chemical constitution of some of the recently introduced chemical remedies and their physiological action. Antiseptic properties have been found to be characteristic of alcoholic hydrated derivatives, such as phenol, naphthol, etc.; antithermic properties prevail in amidogen derivatives—viz., acetanilid, kairn, and thallin; and analgesic properties are most pronounced in amidogen compounds, in which an atom of hydrogen has been replaced by a molecule of a fatty radical, especially of methyl, *e.g.*, antipyrin, acetophenacetidin, and exalgine.

Paraldehyde.—An important contribution to the clinical history of this hypnotic has recently been published by Dr. J. Gordon, of Aberdeen. He points out that it does not depress the heart's action; the dose does not require to be increased, since the same doses have produced hypnotic effects for months, and no marked craving for the drug follows its use. Its action is speedily produced, sleep generally occurring in ten minutes after its administration; it does not disorder the digestion, and is in many cases gently laxative. In the majority of instances the amount of urea excreted is increased, but the quantity of fluid constituents is diminished.

Myrtol, which was at one time recommended as an antiseptic, has recently been shown by Herr Jahns to consist chiefly of a terpene allied to that of oil of turpentine, and eucalyptol. Every purpose for which myrtol might be used would therefore be equally well served by eucalyptol. The latter body has lately been found to occur in several oils, such as those of santonica, cajuput, and camphor, the two last being comparatively inexpensive sources of eucalyptol.

Methacetin, a new antipyretic which has been used in the clinic of Professor von Jacksh, at Gratz, is reported on favourably. It is an acetyl compound of anisidin, being, in fact, para-acet-anisidin. It is prepared in the form of a pale, reddish, odourless, crystalline powder, having a bitterish saline taste. It is soluble in cold water, more so in hot; very soluble in cold and hot alcohol, and dissolves equally in acid and alkaline liquids. It melts at 127°C. It possesses antiseptic as well as antipyretic properties, a one per cent. solution being sufficient to prevent the decomposition of milk and ammoniacal fermentation. The lethal dose is shown to be, in the case of rabbits, three grammes, the action being very rapid, cramps in the hinder and then in the forward extremities quickly setting in, and the general course of poisoning closely resembling that of antipyrin. Doses of 0.15 to 0.20 gramme were found sufficient to reduce the temperature to the normal standard in children suffering from tuberculosis and pneumonia. The depression of temperature continued sometimes for several hours, and then gradually rose, and when the dose was given at the time of the physiological daily remissions, the fall in temperature was more rapid, and lasted longer. Free perspiration was produced in many cases in about half an hour after taking methacetin, but neither sweating nor lowered

temperature was noticed in persons not suffering from fever, to whom the drug was administered. Generally speaking, it is well borne by children; but in one case, collapse lasting for three hours followed a dose of 0.20 gramme given to a girl exhausted by tuberculosis. It is therefore recommended that the dose of 0.30 gramme for children should not be exceeded, and small repeated doses are considered preferable to a larger single one. The ready solubility and consequent rapid absorption of this substance render it necessary to use great caution in experimenting with it.

Di-thio-salicylic acid has recently been suggested as a substitute in some cases for salicylic acid. It is prepared by heating together at 120° to 150° C. equal molecular proportions of salicylic acid and sulphur chloride. The pale, resinous, fused mass first formed is dissolved in soda solution, and the di-thio-salicylic acid precipitated in the form of a resinous straw-yellow mass, by means of hydrochloric acid. When dried it is pale yellow, dissolves readily in spirit, benzol, and glacial acetic acid, and melts readily. The di-thio-salicylate of sodium is obtained on adding chloride of sodium to a concentrated solution of the acid, as a crystalline yellow precipitate, forming on trituration a pale yellow powder. Some years since (1876) it was suggested by the late Mr. John Williams that as the sulpho-carbolates possessed certain advantages over the carbolates, it might in like manner be possible that sulpho-salicylates might be preferable, under certain circumstances, to salicylates.

Sulphonal.—An interesting account of the effects of an overdose of sulphonal is reported from Germany. A workman in Riedel's factory took a good tablespoonful of the drug, with the view of procuring sound sleep. Half an hour afterwards, whilst drinking a glass of beer, he experienced so strong a feeling of lassitude that he went home to bed at once, without finishing the remainder of his beer. The dose was taken on a Saturday evening, and he slept until the Tuesday following, when he was violently roused, but went off to sleep again immediately. The next day he was again roused by his wife at one o'clock, and remained awake, though feeling giddy, until eight o'clock p.m., when he ate food with relish. On Thursday he rose at seven o'clock, and by the evening all the symptoms had disappeared. A drug which can procure such lengthened sleep promises to be of great use in cases of mania in which sleeplessness forms a prominent feature.—*Antipyrin* has been found to possess the property of increasing the solubility of some quinine salts. Thus one gramme of quinine hydrochlorate requires a temperature of 53° to 56° C. to dissolve it in two grammes of water; but if 0.40 or 0.50 gramme of antipyrin be added, it will dissolve at a temperature of 2 ° to 31° C.; or with 0.20 to 0.25 gramme added, it will dissolve at 44° to 50° C. The quinine antipyrin solution remains unaltered for a long time, but that of the quinine hydrochlorate alone crystallises at once on cooling. The insoluble valerianate of quinine behaves in like manner, one gramme with one to one and a half grammes of antipyrin dissolving in double its weight of water at 44° to 62° C. It is suggested that this property may find a practical application in the preparation (without the addition of acid) of a solution of quinine for hypodermic use. Attention has been directed by Messrs. Prudhomme and Vigier to the fact that when antipyrin and sodium salicylate are mixed together in the dry state, a decomposition takes place, an oily liquid being formed that renders the mass pasty, and which may in twenty-four hours constitute 10 per cent. of the whole. This pasty product is alkaline, although the salicylate of sodium normally has a faintly acid reaction. A solution of the two compounds does not appear to change in the same way, since the solution remains slightly acid. It appears, therefore, that until more is known of the compounds formed, it is undesirable to prescribe the two drugs together.

Strophanthus.—Further investigations have been made into the nature of the diuretic principle of strophanthus. This was stated by M. Catillon to be a calcium compound of a nitrogenous acid, and to be free from toxic action. Calcium strophanthate is now described as being tasteless and deliquescent, and turning litmus paper blue. A solution acidulated with hydrochloric acid gives a precipitate with potassium iodo-hydrargyrate, or sodium phospho-molybdate, and it is thought likely that the report that strophanthus seeds contain an alkaloid has originated in this reaction. The acid, which is believed to be of the nature of an amide, has been separated by treating the solution of the calcium salt with sulphuric acid until a precipitate ceases to form, filtering and precipitating with great excess of alcohol.

Hysteronica Baylanuen, a Chilian plant, employed in that country in gastro-intestinal affections, has been experimented with by Dr. Baillé. He has found an infusion made with one part of the plant and 150 of water to be an excellent remedy in diarrhœa, and useful in acute and chronic dysentery. It appears to owe its activity to a brown acrid resin and an essential oil, since no alkaloid has been found in it. The whole plant is covered with a yellow, odorous, resinous exudation.

Ormosine is the name given to an alkaloid extracted from the seeds of *Ormosiæ dasycarpa*, a native of Venezuela and British Guiana. The alkaloid is stated to have a narcotic effect resembling that of opium (Kobert. Jahresb, 1886, p. 59), but has not until recently been obtainable as an article of commerce. Further experiments are still needed to determine whether it can be used in cases in which opium is not applicable.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. KESTEVEN, M.D.

The Use of Electricity in the Treatment of Diseases of the Female Pelvic Organs. By J. Wesley Bovee, M.D., Washington (*Journal of the American Medical Association*, April 13th, 1889).—"Great claims," Dr. Bovee observes, "are being presented for the efficacy of the galvanic current in dispersing fibroid tumours of the uterus. . . . Its value in this direction is, I believe, overrated." In two cases that Dr. Bovee diagnosed uterine fibroids, the growths disappeared after several applications of the electric current. In another case of multiple fibroids of the uterus, the Faradic current was employed, the tumours also disappeared. Dr. Bovee's comment upon these is thus: "I believe, however, that the electric current was not the real factor in their removal, inasmuch as these growths frequently disappear without any treatment whatever." In another case Dr. Bovee believed the diagnosis to have been incorrect, that no tumour existed, and that possibly hypertrophic thickness of the posterior wall of the uterus was the enlargement. As a reason of this opinion Dr. Bovee states that he has treated a number of cases of patients suffering with uterine fibroids, diligently for months, without any diminution in size of the growths, and further observes:—

"At any rate, I cannot see what reason the advocates of 'electrolysis of fibroids' have for so terming the electric action they describe. Certainly no breaking up of the chemical constituents of the growths occurs, except, perhaps, some simple salt like sodium chloride is decomposed. But the albuminoids and other complex proximate principles are not broken up, consequently electrolysis does not occur. Even if it does take place at the poles chemical change does not extend any appreciable distance into the growth. In hard fibroids of from nine to twelve inches in diameter, I cannot conceive how any electrolytic action can take place through the tumour, with irreparable damage to the delicate adjacent tissues. How can a current so powerful be confined to the growth when the surrounding more delicate tissue has so much greater conductivity."

Dr. Bovee remarks, "The galvanic current has been used considerably in the treatment of inflammatory deposits about the uterus, punctures having been made and powerful currents used as in the treatment of fibroids. I believe mild currents, if applied oftener and longer, both in duration of application and period of treatment, will prove more serviceable." This has been the plan of treatment of the cases related in this paper, and none which he thinks might wisely be substituted for the knife in diseases of the ovary and oviducts. The author further states that he believes that had Mr. Tait given electricity a fair trial in his own practice, he would not have reported his second thousand of consecutive abdominal sections. There is a class of cases that cannot tolerate the application of electricity—not even the amount of electromotive force just sufficient to overcome the resistance of the tissues through which it passes. I am unable to see anything about these patients that could, in any respect account for the intolerance of the current. It is probably an idiosyncracy that will only be known after attempts to apply the current have been made. The batteries I have

used were made by Waite & Bartlett, of New York, and have been faithfully cared for. I have usually applied the galvanic current just strong enough to be not uncomfortable to the patient. Each séance usually lasted from fifteen to thirty minutes, and usually repeated on alternate days, but occasionally, applications were made every day. The treatment was usually supplemented by tamponnement with small woollen pledgets that were left *in situ* until just before the patient was to return for another treatment. The galvanic current was used in every case, and occasionally the faradic current was employed for its tonic effect, and for the relief of pain. It was usually successful in both of these, and its salutary effect upon constipation was occasionally noticed. I do not think much good will come from the use of electricity in large pelvic abscesses or in tumours of a cystic or malignant nature. But I think nearly all other diseases of the female pelvic viscera are amenable to its restorative influence. Even small abscesses and small cysts of these structures are, I believe, curable by the judicious application of this remedy. In many of the cases that have been reported as cures of ectopic gestation by electricity, the condition of the patient's pelvic organs previous to the discovery of the so-called pregnancy had not been known.

Histological Examination of a Meningo-Encephalocele (*Le Progrès Médical*).—M. Perier, at the sitting of the Academy of Medicine, Paris, April 2nd, related the case of an infant who, at birth, presented on the middle line of the occipital region a tumour, which in three weeks had reached the size of an orange, was soft, but not pulsating. After its contents had been removed by aspiration, the pedicle was tied and the tumour removed. The child recovered in eight days. M. Rauvier found in the mass of cellular tissue, portions of nervous substance derived from the cerebrum cerebellum, together with the tissues of the ependymer, chorid plexus, and meninges.

On the Equino-telluric Origin of Tetanus. By M. Verneuil (*Le Progrès Médical*, April 6th, 1889).—At the sitting of the Academy of Medicine, Paris, March 26th, M. Verneuil submitted the following conclusions on the question. 1. Tetanus is transmissible, not only between animals of the same or different species, but also from man to man and from man to animals, and *vice versâ*. 2. The demonstration is established as regards solipedes. 3. The contagion from horse to man may be made directly or indirectly, the latter being most frequent. 4. Intermediate agencies, whether in prolonged or slight contact with a tetanic horse, receive without destroying the poisonous element, consequently enlarging the sphere of infection. 5. Living beings may serve as the means of transmission without being themselves affected, but are constantly in danger of traumatic auto-inoculation. 6. A wounded man may receive infection of tetanus from surrounding objects, but of all these the horse and all his belongings are the most dangerous. Next in order is cultivated ground and its products. 7. The earth case acquire tetanic virus when contaminated by a tetanic horse. 8. Statistics show that tetanus occurs most frequently among those persons whose calling brings them in contact with horses—that human tetanus is parallel with equine. 9. The equine theory is confirmed by a majority of facts.

Therapeutic Employment of Eschscholtzia Californica (*L'Union Médicale*, April 30th, 1886).—This plant, of American origin, is a Papaveracea, from which alcoholic and aqueous extracts are prepared. A minute quantity of morphia is contained in the glucose extract, and a base to be yet determined which has a powerfully poisonous influence over cold-blooded animals. Physiologically, this Eschscholtzia acts—1. On the respiration: with initial acceleration, followed by retardation to the fatal termination. 2. On the temperature: this is raised by the simple extract, but is lowered by extract deprived of resin. 3. On the nervous system: in small doses, loss of spontaneous action; in larger doses, the bulvar and medullary functions are extinguished. Clinical observations have been made upon thirteen individuals; two cases of chronic bronchitis, two of advanced tuberculosis, one of Bright's disease, one of nephritis, two of disease of the liver, one of paralysis agitans, one of neuropathy, and two of rheumatism. The effects have resembled those of morphia, without any of its inconveniences. The dose of the plant is from 2½ to 10 grammes per *diem*; that of the alcoholic extract from 0.81 centig. to 12 gr.

Ill Effects of Antifebrine (*L'Union Médicale*, March 21st, 1889).—M. Cheron records a case of neurasthenia in which, after eight doses had been taken with impunity, there occurred, after the ninth dose, a concurrence of dangerous symptoms which could not be explained by the cumulative action of minute doses. An hour after the ninth dose was taken, profuse sweating occurred, with serious and alarming collapse. The cheeks, which previously had been red, became pale and cyanosed, the extremities cold, the pulse threadlike and intermittent, respiration rapid. By injections of ether every five minutes, the application to the surface of hot linen, and the administration of hot coffee, with brandy, the danger gradually passed away. In another case, Kronecker observed rigors occurring at the end of eight hours. Collapse also had been witnessed, but less severe, after a few repeated doses, with profuse sweating.

Observations upon Blood-pressure (*L'Union Médicale*, April 27th, 1888).—Professor G. See has given, at the close of his papers upon arterial tension, the following clinical and therapeutical applications of his observations, as deduced also from the researches of M. Basch:—1. Insufficiency of the mitral valves is attended with diminution of pressure. 2. Arterial sclerosis induces increased blood-pressure. 3. In chronic nephritis, with hypertrophy of the heart, pressure exceeds the normal amount; where hypertrophy is absent the blood-pressure is found to be normal. 4. In most cases of fever the pressure is augmented; it falls with the decline, and rises again to the normal degree during convalescence. 5. As a general rule the degree of pressure depends upon the quantity of blood sent to the aorta at one time, together with the resistance that the blood experiences in the arterial system. . . . . 7. In mitral insufficiency the pulse is soft; in aortic insufficiency it is sharp.

Propagation of Cancer, locally (*L'Union Medicale*, March 21st, 1889).—Cancer has spread with unusual intensity in a certain district of Normandy, inferring the presence of a local cause. This has been assigned to the impurity of the water used in the manufacture of cider, which is almost the exclusive beverage. As a preventive it is advised that the water should be boiled, or have the addition of a small proportion of sea salt.

Local Treatment of Diphtheria with Sulphuret of Calcium. By Dr. Hubbard (*L'Union Médicale*, March 21st, 1889).—A solution is prepared in the following manner: Lime, one part; sulphur, two parts; water, twenty parts; boil until the quantity is reduced to twelve parts. To be used with the spray every half-hour, or less frequently, according to the severity of the case. For infants, a small quantity of water is to be added. A change in the false membrane is rapidly induced, and general amendment follows. In some cases the membrane had entirely disappeared in one day. This notice is quoted from the *Medical Record* and *Gazette Médicale de Liège*.

Abortion of Mammary Abscesses. By M. Budin (*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, April 21st, 1889).—M. Budin considers that he can abort mammary abscesses by disgorging the lacteal canal, in submitting the nipple to certain methodical pressure by which the fluid is expelled from the ducts. These proceedings of M. Budin are virtually those ordinarily practised for drawing off the milk. The thumb and index finger are applied at a certain distance from the nipple, near the circumference of the areolas. Pressure is first made from the surface towards the base; then continuing the pressure, the nipple is to be compressed from behind forward, so as to expel the purulent contents of the lacteal canals.

Treatment of Uncontrollable Vomiting in Pregnancy. By Dr. Gunther (*L'Union Médicale*, March 21st, 1889).—A moistened sponge, attached to the positive pole of a galvanic pile, is to be inserted into the vagina, and placed in contact with the cervix uteri. The negative pole, represented by a metal plate, is to be placed over the space between the eighth and ninth dorsal vertebræ. Weak currents, of short duration, are then to be passed.

Treatment of Pulmonary Tuberculosis by Biniodide of Mercury (*L'Union Médicale*, March, 1889).—MM Miquel and Rueff, for the above purpose, employ the following with the spray: Biniodide of mercury, one gramme; iodide of potassium, one gramme; distilled water, 1,000 grammes. Out of twenty-seven cases, nineteen had been benefited, and eight remained as they had been.

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

A New Mode of Magnetic Extraction.—By Dr. Victor Melcior (*Revista de Ciencias Médicas*, Barcelona.) The lodgment of minute particles of foreign matter, especially of iron, in the eye is one of the commonest of accidents. But, whether we regard the excessive pain or the possibility of fatal mischief to the ocular apparatus, the mischance is one which cannot be lightly regarded, especially if the splinter be lodged in, or has perforated, the cornea. A young ironfounder consulted the author at the beginning of the present year, two scales of metal having lodged so firmly that it was beyond the resources of domestic surgery to extract them, and the eye had become terribly inflamed under its rough application. On examining the eye there was found intense conjunctivitis and photophobia, and just below the inferior

perimeter of the cornea a minute black speck could be seen, and in a swollen fold of the conjunctiva above there was a second. As the particles were evidently of metallic iron a magnet suggested itself as the best and safest extractor, and on applying the edge of one pole to the speck on the cornea it was instantly removed with only momentary sharp pain to the patient; but that in the sclerotic could not be managed so easily: it was too firmly implanted to be drawn by slight attraction, and the thickness of the magnet—probably a common "horse-shoe"—prevented its close application. Dr. Melcior, therefore, took a Weber's eye-scoop, rubbed it across the magnet three or four times, and then touched the splinter with it; it adhered. and with a little careful manipulation was triumphantly withdrawn. It may be mentioned that, when there is a Lechanché, or a bichromate cell at hand, a spiral of fine covered copper wire wound for an inch or so on a knitting-needle, or a French wire nail, makes a most efficient electro-magnet for the purpose.

Immunity from Phthisis enjoyed by Lime-burners, with Therapeutic Suggestions. By Dr. Halter (*Giornale Internazionale delle Sciencie Mediche*).—The author during a recent residence in Lengerich (Wurtemberg) noticed, as several other medical men had before him, that the men employed in some large lime-kilns there are singularly free from phthisis, whilst that disease is very prevalent amongst the population of the neighbouring town and district. In endeavouring to discover the cause of this immunity from one of the most fatal of disease it appeared to him that four points had to be taken into consideration. The purity of the mountain air where the works are situated. The extreme dryness induced therein by the hygroscopic action of the lime. The high temperature borne by the men who work around and within the kilns. And, lastly, the chemical action of the lime dust itself, which is so freely inhaled by the workmen. On the first point little need be said; the advantages to consumptives of breathing pure cold mountain air free from dust and animal emanations are too patent, and now too generally recognised to require more than passing notice; it may be pointed out, however, that although sufferers in the early stage of the disease are greatly benefited, if not absolutely cured, by residence at these high altitudes, the habitual dwellers therein are not free from its attacks. Therefore dry, cold air is rather curative than prophylactic, and living within its zone alone could not explain the immunity of the lime-burners. Its extreme dryness in the vicinity of the works cannot be, nevertheless disregarded. Researches carried out in England by Bowditch, Milroy, and Buchanan have shown how important is the condition of the soil and subsoil in reference to moisture in the generation of this disease, its relative amount in given areas being almost in direct ratio to the dampness of the earth. But, of course, in a space so comparatively small as that in question this condition could hardly extend far, or be very independent of that of the surrounding atmosphere, and might be taken as a factor of minor importance in the general result.

The lime dust itself might be expected to have considerable influence for good or evil, and *à priori* the latter. For it is in such a fine state of division that it penetrates within the cases of watches in the men's jackets, and must be inhaled very largely; and it is popularly believed to be very injurious in the way of provoking bronchial mischief amongst plasterers and bricklayers; but Nerkel has shown that the chief sufferers are those who are employed in pulling down old houses, and in their case it is not so much the dust of the mortar as of the dirt and filth intermixed with it which is so hurtful. The fact is, that the labourers at Lengerich are not injured by it, they are breathing it all day long and seem none the worse for it, and the autopsies of some who had died revealed no calcareous deposits in the lungs. There remains, then, only the high temperarure of the air within the kilns to be considered. The inhalation of superheated air in the treatment of pulmonary consumption is already known to us, and the observations of the author have been anticipated by others, but, as the method is of very recent introduction, a summary may be given. The basis of the system is, that the bacillus of phthisis cannot support a temperature much raised above the normal point, whilst the patients can. Moreover, the former are extremely intolerated of dry air at any temperature; whilst with us the drier the air is the higher it may be heated before it becomes unbearable.

Dr. Halter found that within the kilns where the men were working the heat ranged from 122° to 158°; whilst the air was almost absolutely dry, even at some distance from the furnaces it contained only half as much watery vapour as that outside. All of which is exceedingly bad for the pulmonary microbes. And it is obvious that air so hot and dry as this cannot contain any living forms of them. There is another point: the tolerance of a temperature so much above that of the healthy body is due to excessive evaporation from the skin and lungs; a man whose internal temperature approached 122° would soon be in as bad a case as the bacillus, but the excess of heat becomes latent in the perspiration he is exuding, and he is, for a considerable time, none the worse for it. But, to provide for this, the circulation must be quickened, the heart beat faster, metabolism and cell-change of all kinds be accelerated, and effete material be excreted more rapidly than usual. Therefore, pathogenic bodies, whether microbic or ptomainic, would be hurried out of the system or incinerated, like rats in a burning house, and even the phagocytes would be hard put to it to avoid destruction. In order to afford our phthisical patients the advantages of this plan, it is not, happily, necessary to turn them into lime-burners, nor to frequent the kilns; the little-used dry-air Roman bath—in contradistinction to the Turkish which is essentially a steam bath—yields all its advantages without its inconveniences, and is far better in every way than the mere inhalation of hot air through a tube and mouthpiece. And the author suggests a stay therein for fifteen to thirty minutes once or twice a day. The temperature should be from 41° C. to 55° C. (105.8° to 131° F.), which is higher than the bacillus can support. When a tube is used conveying superheated air, there is liability to scorching of the mouth, on one hand, or not raising the temperature sufficiently, on the other; in the hot air chamber both these defects are avoided. As regards the extreme temperature supportable by ourselves, Dr. Halter states that he has breathed air heated up to 120° F. (288° F.) with little inconvenience, and it was only when it reached 190° C. (406° F.) that it felt painfully hot. We naturally compare these astonishingly trifling effects with the impossibility of bearing contact with water heated above 50° C. (122° F.), but the difference is due to the fact that the conductivity of air for heat is only one fourth of that of water. It is much the same as when we carry a bottle filled with water just below the boiling point in our hands, without inconvenience, if it be wrapped in flannel. The expansion of the air by the heat occasions some distress in breathing it, for we have the conditions of respiring rarified as well as superheated air. No special building is necessary for the more moderate temperatures; a slow combustion stove in a small room would readily furnish it. The duration and frequency of the use of the bath depends upon the conditions of the patient and the stage of the malady. A fairly strong man in the early stage of phthisis should take it at temperatures of from 45° to 50° C.; one weaker or more gravely effected should not pass beyond 45°, and those in the later—that is, hopeless—stage should not be permitted to try it at all. When there is much feverishness or hæmoptysis it is inadmissible. Sufficient ventilation must be provided. It is better to breathe by the mouth only, for the hot air irritates the nasal passages. Forced breathing must be avoided. It is suggested that inhalations of creasote should be practised in the intervals of the hot-air bath. The bacillus of tubercle is very tolerant of low temperature if not dried at same time, —87° C., and even —130° C. in ice did not kill, but dry air, whether very hot or extremely cold, is fatal. This explains the success of Dr. Worms, of Riga, who keeps his consumptive patients in cold, dry air almost day and night, as well as that of the hot-air bath of equal aridity. But the percentage of deaths from the disease remains pretty constant.

Apuntes Médicos de Marruecos. By Dr. Ladrón de Guevara (*Revista de Ciencias Médicas*). An article extending through four numbers of the *Revista* gives a very readable sketch of the position of medicine and hygiene amongst the Moors in ancient and modern times. The greater part is chiefly of antiquarian interest; whilst it shews that the state of Tangiers and the larger towns throughout the kingdom of Morocco at the present day is deplorable in all respects. Under the worst of Governments, with no security for life or property, and with every hygienic condition neglected or defied, the lot of the people is miserable beyond description. And it is strange to find amongst a nation once the pioneers of science and literature in Europe, which possessed such scholars and teachers as Averhoes, Avicenna, and Rhasis, that medicine has fallen to the very lowest ebb, and that there is no medical school of any kind in the country. Anyone can practise it who pleases, and its professors are the most abject of men. The chief surgical operations are circumcision, the extraction of teeth, cupping and bleeding; and the medicines—opium, hàshish, a few drastic purges, astringents and reputed aphrodisiacs; whilst the sale of poisons for criminal purposes is almost openly carried on.

The writer was present one day in Tangiers when an old man, clad in a dirty turban, a ragged cloak and drawers, with bare feet and legs, was haled before the judge by a group of screaming and wildly-gesticulating women, who charged him with maltreating the head of the family. The wretched *hakim* had been engaged to open a vein at the corner of the man's eye. Heaven only knows what he had done, but the patient had become blind and epileptic. The accused threw himself on the ground, and passionately pleaded that he had done his best; that this very operation was the source of all his fame and reputation; that it always did good, and that the man's condition was "his fate," which he was bound in Islâm to accept with resignation. This argument placed the *cadi* in a dilemma, but, after angrily twisting his beard

for a minute or two, he got out of it by silently motioning a couple of ferocious looking soldiers to drag the defendant off to prison. The poor old doctor seemed glad enough to go, as it probably saved him from being torn to pieces by the infuriated women. In a few days he was released more ragged and dirtier than ever, and Dr. de Guevera recognising him in the street, invited him to his house in order to shew him some European instruments and medicines. In return, he produced from a leathern bag his own *armamentarium*. It consisted of a very sharp razor, two or three hooks, some clumsy pincers, and a chisel. He had also a surgical museum comprising more than 300 prepuces wrapped up in rags, and nearly a peck of extracted teeth. Looking at his tools and then at these memorials of his workmanship made the doctor shudder with their accumulated horrors. His pharmaceutical establishment was contained in a few dirty and most evil-smelling tin boxes. One day a brother of the craft was seen in the act of wrenching out an aching molar *al fresco*, with the aid of four volunteer assistants and a pair of farrier's tongs. Two of the former held the patient's head, two sat on his legs as he lay on the ground and grasped his hands, whilst the operator stood astride of him and tugged at the tooth with both hands. With a mighty yell from the sufferer it suddenly parted company, and down came the operator—whose foot slipped at the critical moment—plump on the prostrate victim as he fainted away with the redoubled agony. Circumcision is performed with a single cut with the razor, and the uvula is frequently removed in the same way. Gunshot wounds are treated by pouring in frizzling oil, and the rare operation of amputation is a circular sweep with the knife, sawing the bone through at the same place, and dipping the stump in melted pitch—most ancient of styptics !

The Treatment of Disease by Bacteriotherapia. By Dr. Luis Manfredi (*Giornale Internazionale delle Sciencie Mediche*).—The conception of Hahnemann was the treatment of diseases by minute doses of medicines which produce effects which resemble them. The newest departure is the treatment of diseases, or rather their causes, with each other. Bacteriotherapy is the art of removing or averting mischief due to bacteria by the administration of other similar organisms inimical to their existence. Its foundation is the magnificent idea that in the mutual antagonism of these surpassingly minute beings we have, in a microcosm, a struggle for existence as fierce and unrelenting as that in our own greater world, and in which the survival of the fittest ensures health to their involuntary host. Although the microscope shews us that all their encounters are not gladatorial (some dictated by gentler feelings being examples of symbiosis), yet the general result is, in whatever cultivant they may be brought together, the triumph of one or a few, and the utter rout and disappearance of the rest.

We are chiefly indebted for the idea to Raulin, to whom belongs the credit of the profound investigations into the life history of *aspergillus niger*, and, also, to Naegeli, who extended to others of these minute beings the same accurate examination. From both we learn that the essential point with them, as with our own teeming millions, is the supply of food. They do not devour one another literally in this internecine war, but only prevent their rivals obtaining aliment, just as we do and call it healthy competition.

For instance, aspergillus is being cultivated in Raulin's solution, which is composed only of mineral substances, and the zinc it contains in the proportion of 0.023 gramme per litre is suppressed—the plant dies. And the same result follows if we introduce another mould with a special zinc appetite—it is starved to death. Raulin's solution contains a trace of iron, which he has shewn the fungus does not use as food, and yet cannot live without, because it combines with some noxious matter, which the latter excretes, and renders harmless. But if we put in some other cells with a taste for iron, the aspergillus dies once more, but from autotoxia, not starving. From these two facts, already classical in scientific annals, two theories have emerged which explain not only why bacteria destroy each other, but why certain soils, the human body included, passively resist invasion by two contemporaneous hordes—it declines to feed them. A bacillus may destroy another, either by appropriating its food or its natural physic—we may say—when it happens that what is meat to one is an antidote to the other. And there is yet a third, and the more generally accepted, theory that certain bacilli can generate a diastase which dissolves their rivals into a broth they themselves feed upon. This is known as phagocytism.

But, in the case of the disappearance of both organisms, when two species of bacilli are implanted together in the same soil, can we be sure that the one has really devoured the other? It is a matter of history and scarcely to be doubted that the *feles Kilkennyensis* did so, but in that instance the *locus in quo* had no influence upon the result; but Raulin shews that the slightest change in the composition of the nutrient medium may render it unfit for the sustentation of a given bacterium. Therefore, may not some change, scarcely appreciable to ourselves, have determined its destruction synchronously with the arrival of, but not potentially due to, the second organism? For these minute bodies do not merely die, the greater number absolutely disappear at the same time. Our present knowledge, however, of antagonism amongst these being almost infinitely small, is that which we might have of a polyhedron of which we have seen and measured only one or two angles. Be that as it may, the fact that a nutrient medium in which certain growths have lived and died cannot be again used for the cultivation of the same kind, or even of others, goes far to explain the immunity which one attack of a non-recidivous disease confers upon us. We may imagine that during the first attack, the body lost or acquired *something* necessary or inimical to some form of bacterial life, and which is never again replaced or got rid of.

The earliest form of bacteriotherapy—although practised empirically—was the Jennerian vaccination, but we cannot be quite sure if the virus in the lymph be that of variola in some modified form, or that of an antagonistic organism. It is, of course, only in the latter case that it can truly be called so. Pasteur, however, has shown that the bacillus of cholera preserves fowls from infection by carbuncle. The one disease above all others which would seem the most promising for treatment in this new way is tubercle, and Dr. Cavagnis, of Padua, believed that he had succeeded in doing so by modifying the bacillus of Koch by cultivation in peptonized broths mixed with a small quantity of phenic acid. The plan on the face of it was unreasonable, and, after the publication of his first paper, he found that his experiments had misled him, and in a second he frankly acknowledged his error.

(To be continued.)

III.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

Removal of the Entire Humerus (*Journal de Medicine*).—M. Polaillon has exhibited before the Société de Medicine Pratique a left humerus which had been removed by him under the following circumstances: The patient, æt. fifty, received a gunshot wound in the upper portion of the left arm at the battle of Solferino on the 24th June, 1855. From time to time splinters of bone were removed, and at the end of twelve months he was cured. The wound remained healed for seventeen years, but at the expiration of this long period suddenly an abscess formed in the arm, a fistula remained, and by degrees the humerus was affected with osteo-myelitis throughout the entire length. The patient endured this osteo-myelitis for twelve years, but the humerus having broken mainly through muscular action, Dr. Polaillon was consulted. He removed the whole of the humerus at two sittings. The operation was perfectly successful, the patient making a good recovery. The humerus has not been reproduced, but the arm is limp and shortened. Supported by a splint of leather, or other material, the patient can execute all movements of the shoulder and elbow, and he has the important advantage of retaining the whole of the movements of the hand.

Hospital for Medical Students at Vienna (*Le Progres Medical*).—A society has just been formed at Vienna to provide for the comfort of students who are ill. A hospital is about to be established for their accommodation.

International Congress of Therapeutics and Materia Medica (*Le Progrés Medical*).—This congress will take place at Paris from the 1st to the 5th of next August. It will be open to all medical men, chemists, and veterinary surgeons who send in their names and subscription fees of ten francs. There will be two sections—one devoted to therapeutics; the other to materia medica. Amongst other questions the following are set down for discussion:—1. Antithermic and analgesic remedies. 2. The antiseptics best adapted for each species of pathogenic microbe. 3. Cardiac tonics. 4. New vegetable drugs recently introduced as therapeutic agents. 5. Uniformity of weights and measures employed in formulæ, and the utility of an international pharmacopœa.

Explosive Medical Compounds (*Revue Scientifique*).—Professor Kobert has drawn attention to some medical compounds which may sometimes cause explosion. Chlorate of potash mixed with charcoal tooth powder may explode even in the mouth. Chlorate of potash pounded in a mortar with catechu, nut-galls, or tannin is liable to detonate, even if glycerine be added. Chlorate of potash will detonate whilst being mixed with phosphate of sodium. One part of chromic acid mixed with two of glycerine explodes immediately. Iodine mixed with ammonia forms a very explosive compound. If alcohol be mixed with bromine, a bromide of ethyl is formed which frequently explodes. Picric acid reduced to powder detonates if mixed with anything else. Nitro-glycerine is liable to explode even when much diluted.

A New Journal *(L'Union Médicale).*—A new review has been commenced under the editorship of Dr. Henri Tournier, which will be called "*Journal des Maladies Cutanées et Syphilitiques.*" The work is intended to be of a practical character, and it is hoped will render the study of dermatology and syphilography more popular.

Salicylate of Mercury in Venereal Disease *(Journal de Medicine).*—Dr. Plumert gives the following account of the use of salicylate of mercury in venereal diseases. It is a white amorphous powder without taste or smell, and its reaction is neutral with litmus paper; it is nearly insoluble in water, but the addition of a little chloride of sodium or carbonate of potash renders it soluble. It is used as an injection for blenorrhagia, the formula being salicylate of mercury and carbonate of potash, of each one to three grammes, distilled water a litre. In cases of ulceration of venereal origin and in phymosis, the parts may be dressed with compresses dipped in a one per cent. solution of the salicylate, or with an ointment consisting of one part of salicylate of mercury to thirty of vaseline, which is also a useful remedy for eczema. When there is copious discharge from balanitis or vulvitis the parts may be dusted with one part of salicylate of mercury mixed with twenty parts of carbonate of magnesia; it will be found to lessen the discharge. In syphilis, salicylate of mercury may be administered by subcutaneous injections, or in pills. The solution is made by dissolving a decigramme of the salicylate and of carbonate of potash in ten parts of boiling water. The solution should be prepared as often as it is wanted, and should be colourless and free from deposit. A cubic centimetre should be injected subcutaneously, and deep into the cellular tissue. The injection only causes pain some minutes after it has been made. Stomatitis is only caused when the treatment is prolonged. The pills contain a quarter of a gramme of the salicylate, and from two to four are given daily, exceptionally, six may be given.

IV.—NOTES FROM RUSSIAN, POLISH, BULGARIAN, AND SWISS JOURNALS.

By VALERIUS IDELSON, M.D., BERNE.

On the Phosphorus Treatment of Rachitis.—At the third general meeting of Russian practitioners at St. Petersburg, Dr. Anna N. Shabanova, house physician to Prince of Oldenburg's Hospital for Children, read a paper (*Transactions of the Meeting*, No. 2, 1889, p. 55), detailing her experience in regard to Kassowitz's method of treatment of rachitis by the internal administration of phosphorus in small doses. The total number of her cases amounts to 105, of which 30 refer to children under one year of age; 56 to those aged from one to two; 12 of from two to three; 6 of from three to seven; and 1 of five. In 98 defective height was present, the *minus* (comparatively with the standard) varying between four and seventeen centimètres. In 58 the body's weight was sub-normal, the *minus* oscillating between 320 and 1,060 grammes. Out of 105, in 90 cases both the patient's height and weight increased during the treatment (which lasted, in individual cases, from one to eight months), the *plus* in the former case varying between two and twenty-six centimètres, and in the latter between 600 and 900 grammes. The increase was most marked about a third year of life. The following forms of rachitis were observed: cranial lesions alone in 15 cases; cranial and thoracic ones in 12; cranial, thoracic, and spinal, in 9; craniotabes and lesions of the chest and limbs in 13; lesions of the skull and limbs in 9; those of the chest alone in 1; of the chest and limbs in 25; of the chest, spine, and limbs, in 9; of the limbs alone in 6; of the whole skeleton in 14; laryngospasmus in 20; convulsions in 10; retarded dentition in 68; retarded involution of the major fontanelle in 38; retarded walking in 30; general nervous irritability in 82; dyspepsia in 30; bronchitis in 28. In 29 patients rachitis was complicated with scrofula, in 48 with anæmia, and in 2 with syphilis. The therapeutic results are classified by the author as follows: In 6, "excellent" ones were obtained; in 32, "good;" in 39, "fairly good;" in 22, only "slight improvement" was noticed; while in 6, the disease "grew worse" under the treatment. Dr. Shabanova's general conclusion is to the effect that "the phosphorus treatment of rachitis gives, on the whole, fairly favourable results, bringing about a marked amelioration of the patient's general state, and even that of various individual manifestations of the disease; in particular, the treatment proves relatively most successful in regard to nervous symptoms; a second place is occupied by motor defects of the limbs, and a third one by osseous lesions."

Dr. Shabanova's communication has given rise to a rather lively discussion, in the course of which Dr. N. K. Viajlinsky, of St. Petersburg (*loc. cit.*, No. 10, p. 397), has expressed his doubt whether the lady is justified in attributing the improvement noticed by her solely to the action of phosphorus alone. Various hygienic and dietetic measures adopted by her most decidedly largely contributed to the favourable results obtained. As a matter of fact, Dr. Viajlinsky treats rachitis more or less successfully by baths and cod-liver oil, without resorting to any medicaments.

Similarly, Dr. Lev P. Katchenowsky and Professor V. F. Jakübovitch, of St. Petersburg, emphasize that, to verify her conclusions, Dr. Shabanova ought to have carried out a parallel series of controlling clinical experiments, omitting phosphorus, but leaving all other conditions equal.

Dr. Alexandr A. Kïsel, of St. Petersburg, rejects the phosphorus treatment of rachitis altogether, and that on the following grounds:—1. Phosphorus belongs to the category of most powerful poisons. 2. As some physiological experiments of his own have proved, the substance does not cause any increased deposition of lime salts about the osseous system in young (growing) animals. 3. Hence, the starting-point for the method in question is totally wrong. 4. In addition, the doses used are exceedingly high. 5. Before venturing to administer any poisonous remedy to children, its innocuousness (in medicinal doses) must be previously clearly proved by physiological evidence; meanwhile, nothing of the kind has been yet done in regard to phosphorus. 6. Any improvement observed in rachitic children in the course of the phosphorus treatment by no means can constitute anything like an evidence in favour of curative effects of the drug, since (*a*) hygienic and dietetic measures alone, invariably resorted to simultaneously with the use of phosphorus, do most decidedly manifest a beneficial influence on the course of the disease; (*b*) in a majority of cases, rachitis shows a pronounced tendency to a spontaneous improvement; (*c*) rachitic children continue to grow in size and weight, independently from any treatment.

On Malarial Hæmaturia.—Dr. Molloff, of Sofhia, Bulgaria, relates (Bulgarian bi-weekly *Meditsinskï Preglëd*, Nos. 1 and 2, 1889, p. 22) a rare and very instructive case of larvated malarial poisoning, closely simulating vesical stone. In a boy of seven, who had formerly resided at a malarial village, but never suffered from intermittent, there had suddenly appeared hæmaturia, frequent painful micturition, vesical tenesmus, sacral pain, and sleeplessness. His urine proved to contain red blood-corpuscles, hyaline casts, and albumen. No stone, however, could be detected in the bladder, and the treatment by hot baths, diuretics, and emollients, utterly failed to relieve the symptoms. While watching further over the case, Dr. Molloff made at last the important discovery that the boy was visited daily by febrile paroxysms, beginning with rigors about noon, and ending with profuse sweats towards the evening. The spleen proved to be enlarged. Hydrochlorate of quinine was at once administered, with the result that in two or three days all the symptoms disappeared tracelessly and permanently. Dr. Molloff believes that his case is yet unique in international literature, and represents a peculiar variety of malarial poisoning, which he proposes to name a "*febris perniciosa hæmatodysurica.*"

Mechanical Treatment of Gleet and Sexual Astenia.—In the Polish Monthly, *Wiadomosci Lekarskie*, No. 6, 1889, p. 169, Dr. Karol O. Szadek (pron. "Shadek"), of Kïev, publishes an able and interesting paper on the treatment of inveterated gleet by the introduction into the urethra of Beniqué's duly curved tin bougies (eleven centimètres long), anointed with either Unna's salve (℞: Olei cacao, 100 grammes; ceræ flavæ, 2.0 to 5.0; argenti nitrici, 1.0; balsami Peruviani, 2.0. M. f. ung.), or Sperling's (℞: Lanolini, 20.0; ceræ albæ, 4.0; argenti nitrici, 0.1 to 0.3. M. f. ung.). In nervous or very sensitive subjects, in whom the insertion of the bougies gives rise to pain and erection, a from 3- to 5-per-cent. solution of cocaine should be previously injected into the urethra. During the first sitting the bougie is left *in situ* not longer than for three or five minutes, but later on the duration of the *séances* are gradually increased up to fifteen or even twenty minutes. The sittings are repeated every two or three days, except very inveterated or atonic cases, in which a daily introduction of the instrument is advisable. As to the size of the latter, the author uses a set from No. 18 to No. 30 Charriere, commencing with the least irritating bougies and gradually ascending to even larger ones. In relatively recent and mild cases he usually employs Nos. 20, 21, and 22, while in more severe and more protracted ones (which, by the way, constitute a vast majority) he, following Professor Otis's instance, passes by degrees to No. 28, or even No. 30. In patients with narrowed meatus, he enlarges the latter by means of a bistoury or scissors. In such cases where the lesions are situated in the posterior division of the urethra, Dr. Szadek introduces his bougies even as far backwards as the bladder. According to his experience the deep insertion, when practised with due caution and carefulness, never causes any untoward accessory effects (such as vesical or urethral irritation, etc.). In all, thirty cases of neglected gleet were treated after the mechanical method. In three of them, referring to unusually severe or old morbid changes about the urethra, complicated

with obstinate vesical affection, the results were far from being satisfactory; but in the remaining twenty-seven the treatment proved highly successful. In eighteen of the twenty-seven complete cure ensued (and that in eleven from the bougies alone, and in seven from the bougies and astringent means). In nine a considerable improvement was obtained; in fact, the only symptom left was a scanty mucoid discharge recurring from time to time. In relatively recent or mild cases from four to six sittings proved to be sufficient for effecting cure. In a majority of cases, however, a one- or two-month's course was necessary for the purpose, while in some unusually severe cases where a relapse took place another similar course was to be repeated some months later.

The same method (in the shape of the insertion of Nos. 20 to 25) gave also most gratifying results in eight cases of sexual astenia with spermatorrhœa and (incomplete) sexual impotence.

Dr. Szadek arrives at the following general conclusions: 1. The method under consideration proves very useful (*a*) in many cases of neurasthenic irritation of the urethral mucous membrane; (*b*) in many cases of inveterate gleet, especially in those characterised by infiltration and other morbid changes in the mucous membrane and submucous tissues. 2. It proves beneficial, further, in inveterate gleet of an atonic origin, or in that kept up by local nervous disturbances. 3. In some cases, however, the mechanical treatment must be supplemented by a subsequent course of local astringent remedies. 4. The method is free from any untoward accessory effects, provided it is practised with due precautions (including antiseptics).

On Obtaining the Duodenal Juice from Man.—In the *Correspondenz. Blatt fuer Schweizer Aerzte*, No. 6, 1889, p. 161, Dr. B. Tchlenoff, a *Volontairassistent* to Professor H. Sahli's clinic, in Berne, says that the perusal of Dr. Boas's paper (*Centralblatt fuer Klinische Medicin*, No. 6, 1889) has induced him to undertake a course of experiments with obtaining the duodenal juice after the plan given by the said German author. The method consists (*a*) in a preparatory washing out the patient's stomach with one and a half litre of a one-per-cent. solution of soda; (*b*) introducing a gastric tube into the organ; and (*c*) a light massage of the epigastrium, in the direction from the right lobe of the liver towards the pylorus (in order to open the latter and to force out the duodenal contents into the stomach). The experiments were carried out by Dr. Tchlenoff in seven patients suffering from atrophy of the gastric mucous membrane, dilatation of the stomach, stenosis of the gullet about the cardia, etc. In five of the seven the attempts proved successful; that is, the author succeeded to obtain from ten to seventy cubic centimètres of a fluid which possessed a high power of dissolving fibrine and transforming starch into erythrodextrine and dextrine. The fluid had either an alkaline reaction (in three cases) or a faint acid one (in two), and was either colourless (in three) or greenish (in two).

To judge from Drs. Boas's and Tchlenoff's experiments: 1. The duodenum contains a comparatively considerable amount of the pancreatic juice and bile even during the patient's fasting (Boas says that in twenty persons he experimented upon he was able to extract from eighteen to two hundred cubic centimètres of the juice, the average quantity attained being about fifty cubic centimètres). 2. A greenish-tinted fluid often found in an empty stomach of patients suffering from various gastric diseases undoubtedly contains bile penetrating into the organ from the duodenum. 3. The enteric juice retains a high digestive power even when the gastric one loses the latter entirely (as has been the case in three out of five patients of Dr. Tchlenoff).

The latter circumstance presents a considerable practical interest. The question naturally arises whether, in cases of atrophy of the gastric mucous membranes, would it not be more rational to prescribe a liberal mixed dietary, in the expectation that all kinds of food ingredients—proteids, starch, fats—would be duly digested by the pancreatic juice? To assist the intestinal digestion the (atrophic) stomach might "be transformed into a kind of a duodenum—that is, the pancreatic ferments, with addition of some alkalies, might be administered."

[The internal administration of a 12 to 15 per cent. pancreatic infusion, or of a good pancreatine, is successfully resorted to in cases of gastric atrophy by Dr. Reichmann, of Warsaw. *Vide* the *Wiadomoski Lekarskie*, October, 1888, p. 125.—Reporter.]

V.—HASTINGS HEALTH MEETING.

SPECIAL PAPERS.

1. Educational Overstrain—Overwork in Schools—Defective Eyesight.—At the meeting in the large hall on Thursday, May 2, Dr. Humphreys read a paper with the above title. Dr. Richardson presided, and, opening the proceedings, said they were disappointed in the absence of Lord Brassey, who was detained abroad. A telegram he had sent stated that he was on his way, but had only reached Gibraltar. They were deeply indebted to Dr. Humphreys, who had kindly come forward, and at the last moment, to fill a gap, had extended his paper.

Dr. Humphreys said Lord Brassey had done much for education by building the School of Art, and then he filled the library, and afterwards generously handed over the building to the town. Continuing, he said education was the drawing out of the mental, physical, and moral qualities. There was a close parallel between the brain and the body. The brain was a wonderful organ, and in development very slow; from observations in the dead mind they saw its growth and judged its composition. All that modern science had given them did not tell them what mind was. It must be judged by observation. When the weight of the brain was less than thirty ounces, ordinary human intelligence was impossible. Some persons went to forty-nine, and Cuvier to sixty-four. In idiots it was sometimes as low as eleven. At birth it was about fourteen. Man reached his maximum power generally at about thirty-five, but women younger. The mind, like the body, could be overstrained. The study of it seemed yet to be in its infancy, though it had been so long carried on. He would endeavour to indicate the remedies for overstrain, and its cause. Even in Roman times there were evidences of overstraining of the mind. Sir Crichton Browne had, in recent years, brought out an able report on overstraining in public elementary schools, and found 46 per cent. suffered from headache, talking in the sleep, and those were probably but indications of worse disorder. Increase in the number of suicides was suggested as an outcome of the overstrain. Dull children under it seemed to become duller and less intelligent. The report was severely criticised in official circles, but undoubtedly, there was much truth in what was said. Bad eye-sight among the children of the poor became more common, and such was found to be the case in Germany. Short-sight, a great oculist said, was also probably due to other causes as well. Another oculist said in a few generations probably all dwellers in towns would be short-sighted. It varied in the schools according to their situation. In bright buildings, with open spaces in front, it was not so bad as in dark buildings in narrow thoroughfares. Mr. St. Clair Buxton had written to the *Standard* on his experiences in connection with bad sight at an ophthalmic hospital, saying it was, in his opinion, partly, at any rate, due to over-study, and he had grave doubts for the future. Many children, he said, were punished for backwardness, when it was only due to short sight. "Surely," he added, "if Government compelled children to go to school and use their eyes, those boys and girls should be examined ophthalmically." Proceeding, Dr. Humphreys spoke of a case of a boy who had worked hard, and who was unwell from overwork. He was sent to prepare for the Navy, and was very clever. He worked hard, and it was found his sight was failing. Care was not taken, however, over the sight for some time, till it became most serious. Total rest was ordered early in the present year, and he improved, but his sight was very bad at the present time. It showed the first warnings of defective sight must not be ignored, and it showed if such care was not taken how long it would be before a cure could be effected. Dr. Humphreys having explained the manner in which the nerves and organs of the eye were affected by overstrain, went on to give the case of a girl in a high school who had been overworking, and who had had to rest for several weeks. Severe headaches, accompanied by vomiting, was brought on in some cases. When the growth was rapid, care should be taken to avoid over-study. Did modern education tend to make children more clever or more stupid? Reasonable training was good for the brain, as was exercise for the muscles. The kinder-garten system seemed to be an admirable one, but at present had only been adopted for the younger children. After quoting Ruskin, showing the fallacy of supposing that noble language was an ignoble trick of grammar, and which he characterised as one of the chief services of education, Dr. Humphreys went on to say that Ruskin said the moderns learnt to paint by drawing by painting first. It was said the fineness of Italian sculpture was often due to the great fineness and delicacy of the goldsmith's work. By faulty education, boys and girls were taught to dislike learning instead of to love it, and abandoned it when they left school. But the reverse should be the case. In former years, at Hastings, the Mechanics' Institute taught some useful matter, but that association had passed away, and now newspapers and political meetings seemed sufficient. He hoped it was not so elsewhere. Children were taught dates, and the kings and queens of England, and their children, but not to understand the real meaning of it all. A person who shortened the hours of school would be doing a good service, and Sir E. Chadwick had rendered valuable service by securing the half-time system for children engaged in factories. Turning to handicraft instruction, he showed that the Jews of old paid much attention to the matter. Some great scientists had been mechanics in their younger days. A system of handicraft for the schools was introduced with great success in Sweden and Norway. He referred to the

Slojd system. It was taken up in other countries, but England was slow to adopt it. In trade, masters preferred to take as apprentices lads who had passed through the system. Schools were not the place for education that should be learnt by apprenticeship, or at colleges, but the foundation work might be laid at the schools. Something of cookery should be taught to girls in schools, but he hoped the cookery reformers would be able to dispense with that, and teach it in the homes. Sanitation had to do with the mind as well as the body. No satisfactory substitute had been provided for competitive examination. He did not see why a test could not be provided which should ascertain what there was in a candidate without that candidate being crammed. To bring about the desired ends, they must work and despair not.—The address was listened to with great attention, and Dr. Humphreys was warmly applauded at the close.

Sir E. CHADWICK said in Germany he had seen the Forces, and generally one-third of them were spectacled. He thought one remedy was to reduce the length of the sustained attention and study. If attention was not sustained by interest in the subject, the time was wasted. He thought three hours might be the limit of compulsory attention in elementary schools. He had asked pupil teachers how many of their children could give attention for more than three hours, and they said one-third. The children forgot a large proportion of what was taught them, and in ordinary conversation and occupation forgot the instruction they had received.

Dr. COOK moved a vote of thanks to Dr. Humphreys for his paper, which he said was very instructive, and well worthy of consideration. The first step in a young child's education had to be taken up from the cradle.

Dr. BENDER seconded the motion, and said the ancient Jews, however learned they were, always knew a trade. He could fully bear out Dr. Humphrey's remarks, and, as German-born, he could say that his bad sight was due to the bad paper on which the German books were published, and the difficult type.

2. Women's Work in Sanitation.—A paper on the above subject was presented by the Lady Mount Temple and the committee of the Ladies' Sanitary Association. They said they presented the following details of the work of the Association in response to the request of the President. Women's work in life was preeminently to influence for good. That they could exercise that power is simple womanly fashion, and help men to promote sanitary reform, was the belief which induced a few earnest-minded women, in 1857, to form a society, whose aim should be to popularise and extend sanitary knowledge among all classes, but especially among the poor. This they endeavoured to do by publishing various tracts. The titles sufficed to show the prevalance of an idea that a wide-spread ignorance existed concerning the laws of health, and that much of the debility, disease, and premature mortality in the country could be prevented. It was not easy to take up the sanitary crusade against dirt and disease, even so recently as thirty-four years ago; health was not then the fashionable topic of conversation. Health Congresses were unknown then. Medical men and other advanced sanitarians, realising the assistance women could give in extending sanitary teaching, were ready to help, and the publication sold freely. Masses of sanitary instruction were issued from the Press. The Women's Association might claim to have been a pioneer in the new department of literature. Many of the publications had been translated into other languages, and bound up with religious and other tracts. It was a curious and significant fact that the sanitary tracts were always the shabbiest when returned. With an average yearly income of £350, the Ladies' Sanitary Association had issued over 2,000,000 of sanitary tracts, and delivered hundreds of lectures, formed Branch Associations, started a Destitute Children's Dinner Society, and weekly outings for poor children to the public parks, and arranged depôts for the loan of cleaning materials. It had encouraged window gardening, outdoor recreations, gymnastics, and swimming. Among various things exhibited at the Office, 22, Berner's-street, Oxford-street, was "Corn Coffee," which might prove the coming desideratum as a wholesome refreshing temperance beverage. Seats in shops for tired *employes*, and the Early closing movement had been assisted. It was only necessary to refer to the efforts of the Ladies' Useful Work Association in Birmingham, and the Yorkshire Ladies' Council of Education in Leeds, to prove that groups of women had been working zealously for years in large towns and villages. By the ready testimony of Corporations and Medical Officers of Health, those feminine efforts had proved acceptable and influential for good to the community. Florence Nightingale and Miss Ryland had proved how women could help men in sanitary work. In the battle undertaken against dirt, disease, unthrift, and intemperance, women had not shrunk from the responsibility of bringing unsavoury facts and insanitary conditions before the authorities who could redress such evils. There existed grave sanitary moral questions in which women felt the deepest interest, and in the solution of which they hoped to share. As a rule, women wished to do thoroughly and promptly what they undertook, and were, perhaps, the less tolerant of vested interests, licenses, bye-laws and regulations, lack of precedents, etc. They cordially welcomed all that might serve to develop home and home life for the people. They were, happily, enlarging opportunities of acquiring the training needful to make women the efficient helpers they would gladly be to those who were marching with themselves along the arduous path of life. In prisons, reformatories, infirmaries, asylums, and educational establishments there was scope for women's work. Looking around, therefore, from the stand-point that the past experience of the Ladies' Sanitary Association yielded, of what women had been able to do, and realising thankfully the increased opportunities the present time afforded for training them for proper work, it might be assumed that women, having done what they could to help men in promoting sanitary reform, would continue to do so, and, with increased light shining more clearly, go on in the matter of duty, and become yearly better help-mates for men.

Dr. HUMPHREYS, in remarking upon the paper, announced that Lady Mount Temple was prevented from attending by bereavement, and bore testimony to the large amount of good done by the Ladies' Sanitary Association in checking the spread of infectious diseases.

3. Sanitary Legislation—Pure Air and Water—Healthy Homes—Overcrowding.—Mr. WILSON NOBLE, M.P., said that sanitary legislation was at once the most ancient and most recent. After speaking of the Jews, he continued as follows: Within what may be called, comparatively speaking, modern times, we find death prowling through our crowded cities, and even our country lanes, striking down with one hand the strong man in the prime of life, and with the other the woman and her little child, unchecked and unheeded, because the people did not know the cause of his coming, and, consequently, were unable to take precautions against his ravages. We have to ask if we are making progress? A few figures will, I think, show we are. The death-rate per thousand in the years 1660-79 amounted to 80 (plague and fire); 1681-90, 42.1; 1746-55, 35.5; 1846-55, 24.9; 1871, 22.6; 1887, 18.8. In London, in spite of its size and densely-packed population, the death-rate is only 19.6. It is to the present century that we must look before we find any serious steps being taken on the part of the Legislature to insist upon more sanitary conditions being established. It is not my intention to recommend any particular legislation, because I do not wish to enter upon any matter of a controversial nature, as the President's addresses at this Congress are not subject to discussion. I think I shall better fulfil the duty which I have been called upon to undertake if I limit my remarks to a brief historical summary of past and present legislation, considering the defects in our present system, and enquire how far it is possible to remedy them. Now the

CHIEF REQUIREMENTS OF HEALTH

are: (1) Water supply, pure and plentiful; (2) fresh air circulated by ventilation; (3) removal of sewage by adequate drainage; (4) general cleanliness. How far have these been insured by legislation, and can we look to legislation to insure them in the future? Before you can expect Parliament to move in the matter, you must show that these things are necessary. The great obstacles to sanitary improvements are ignorance and poverty. I do not mean to imply that these are synonymous terms, so as to make them to appear as one cause, but as two entirely distinct causes of insanitation. In other words, I do not mean to imply that the poor are necessarily ignorant. As to the removal of the first of these obstacles—ignorance—it is being rapidly dissipated. We have fortunately within our midst many men who have devoted their lives to sanitary science—men who are daily educating us and showing us how we may make our towns healthier, and our houses more wholesome; and consequently how we can prolong our lives, and protect ourselves against sickness and disease. These men are striving to attain a definite goal—the amelioration of the mental and physical condition of mankind. At present the death-rate throughout England is 18.8 per 1,000. Looking back a hundred years this is a very considerable reduction. Though we have been able in the last two decades to reduce the death-rate about 4 per 1,000, this reduction implies a greater progress than the figures will at first sight warrant. It shows that we possess a greater power of contending with the forces of disease than we had in the past, because the natural causes of insanitation are on the decrease. There is a strong tendency for people to congregate in towns, owing to the necessity of finding work. If people having reached the towns were able to find clean, healthy, and roomy dwellings, the result would not be so detrimental to health, as it is not the size of the town which produces insanitary conditions, but the destiny with which the population is packed. If, therefore, we could increase the areas of towns in proportion to the increase of population, we should very materially reduce the tendency

to sickness, and consequently the death-rate. But, unfortunately, the bulk of the people who flock into the towns go there for the purpose of obtaining work, and must live near their work, consequently producing all the

EVILS OF OVERCROWDING,

about which I shall have something to say presently. Therefore, though the death-rate throughout England continues slowly to decrease, yet the progress of sanitary science is rapid; though the workers are few, yet are they earnest and energetic. They are daily acquiring knowledge, enabling them to cope with the ever-growing causes of disease, and they as rapidly distribute it; and if more towns were to hold congresses similar to this, where the people would have the advantage of learning what is necessary to the requirements of health, and, at the same time, instructing us who are in Parliament, and showing us where our responsibility lies, we should more rapidly reach the haven for which we are steering. This can, however, only be done by perseverance and patient labour, by allowing no prejudices to interfere with progress, but by believing that those who have devoted their lives to a particular science must at least know as much about it as those who have persistently ignored it. So much for the removal of ignorance, which, I trust and believe, is but a matter of time. As to poverty, that cannot be so readily removed; the poor we have always with us, and always shall have. So we must endeavour to ameliorate their conditiou. They are largest in numbers, and consequently the greatest sufferers, and all surrounded by more uuhealthy conditions. It is true that at one time there were advocates of the Malthusian theory—by which it was hoped that death from disease would remove the surplus population in overcrowded district—I say "were" because I believe very few of its advocates exist at the present day. Pestilence as a check on population has now been proved to be no check at all, for, instead of reducing population, it merely leaves it more sickly and enfeebled. In unhealthy localites, such as the slums of London, where epidemics run wild, the usual interval between births is one year, against two years in the more healthy agricultural districts, owing, no doubt, to the fact that in the latter case the mothers nurse their own children, and in the former they do not. This increase in the birth-rate, therefore, compensates for the increase in the death-rate, the net result being that the unhealthy condition of a locality does not reduce the population. I am inclined to regard the

DWELLINGS OF THE POOR

as one of the burning questions of the day, and one which demands our serious consideration, both on account of its importance, not to the poor alone, but to the whole community, and because it is, at the same time, one most difficult to solve. Those who have studied the report of the Royal Commission on the Housing of the Working Classes will, I think, wonder, not at the high rate of mortality in our large towns, but at the comparatively low rate, considering the awful condition in which some of our people live. Lord Shaftesbury, who spoke with sixty years' experience, said that however much the condition of the poor had been ameliorated in other respects, the over-crowding was becoming more serious than ever. In some of the central parts of London, as in the neighbourhood of St. Pancras, over-crowding had not increased, simply because the locality was so full that it could hold no more. In many parts it is unusual to find a family occupying more than one room. Until the report of the Commission was published, very few people had any idea of what was taking place within a mile of their own doors. In one case we find a family of nine persons, five of whom are grown up, occupying a room 10ft. + 8ft.; two families in one room 12ft. + 8ft.; seven persons in a room 12ft. + 6ft., and only 7ft. high; a father and mother are found occupying a room 10ft. + 5ft., with four children. Over-crowding also exists in provincial towns, and though in some places extremely bad, cannot compare with London in its worst parts. In Newcastle-on-Tyne, 140 families were found in 34 houses, each consisting of four rooms and two cellars. In another case 50 houses with 230 families; and in another, 62 houses, 310 families. Instances are given at Camborne, in Cornwall, where seven, eight, nine, and even ten and eleven persons were found living and sleeping in one room. In Birmingham, another kind of over-crowding was noticed before the improvement schemes were carried out; that is to say, of crowding a large number of houses on to a limited area, the rooms of the houses not being occupied by excessive numbers of persons. Over-crowding is invariably accompanied by many other evils, injurious alike to health and mortality, such as structural defects, bad drainage, and bad ventilation; but setting these aside for a moment, over-crowding has been found to be injurious in itself. Sir Edwin Chadwick has shown that there was an excessive death-rate in single room tenements, a lower death-rate in double room tenements, and a still lower rate in three roomed tenements. In parts of London it was found that even where there was no outbreak of epidemic the death-rate in one case was 44·4, another 53·7, and in another as much as 70·1 per 1,000. As has been pointed out, over-crowding is an ever growing evil, because the causes which produce it are ever on the increase, and themselves are productive of fresh causes. We have first the

GENERAL MIGRATORY TENDENCY

towards the towns. The workman, having reached the town, is compelled to be as near as possible to his work, or if not in regular employ, to be in such a neighbourhood that he could readily get to work should any offer itself. Sometimes work may be obtained provided the workman can get to it by six o'clock the next morning. A colony of poor beings thus formed, it is necessary to feed them. The usual shops are too expensive, by degrees are closed, and become occupied by other families, and costermongers supply the necessaries of life more cheaply than the shopkeepers, and in their turn add to the evils of overcrowding, for they are bound to live near the place where they find a ready market for their goods. Then the houses become old and dilapidated and have to be removed. A street improvement scheme is floated, and scores of homes are demolished—not one moment too soon—but, unfortunately, while the new homes are building and the streets being opened, the poor are still more densely packed in the remaining houses. Though the building improvements, no doubt, confer inestimable benefit on the locality at large, yet while they are in course of progress, they inflict most cruel hardships on the poor in the immediate neighbourhood. Nor is this the whole of the evil. The dwellers in these crowded parts become enfeebled by sickness and their poisonous surroundings, and are unable to do the same amount of work as they could do when they first came to town. The contractors consequently advertise for men from the country, who, fancying that the demand for labour is greater than the supply, flock up to town with their families to obtain work, thus adding to the already too dense population, and in their turn becoming sickly and feeble, only to be replaced again by fresh supplies from the country. The people being obliged to live near their work, they are compelled to pay almost any rent demanded, and this precludes the possibility of their occupying in many cases more than one room. The rents, too, are increased by the middle men, the freeholder having in many cases but slight direct interest in the welfare of the occupiers. He usually inserts clauses in the lease compelling the tenant to keep the house in repair, but he often is unable to insist upon these repairs being carried out, because he knows that if he did, the already exorbitant rent charged by the middle man would be still further increased. That the rents charged are exorbitant may be seen from the fact that some of the middle men, or house jobbers, as they are called, obtain as much as 150 per cent. profit. I do not wish to discuss the breaking up of the large estates, which is advocated by some as a remedy for these evils, because the question of the

ENFRANCHISEMENT OF LEASEHOLDS

is a current political topic. I think, however, it should not be forgotten that someone would have to be landlord, the poor being unable in most cases to own their own houses, and it is a question whether overcrowding would be reduced by replacing the large landlords by the present middlemen. Among the accompanying evils of overcrowding may be mentioned insufficient water supply, bad drainage, bad ventilation, and structural defects. In many of the large tenement houses there is a single water supply, which, not being constant, is drawn off at certain hours of the day, and kept in tubs in the sleeping rooms; or if there is a cistern it is often outside in the sun, and uncovered. Those who travel in town may often have noticed the open cisterns in summer covered with green growth of rank water slime, which, if examined even in the most careless manner, would be found to be teeming with animal life. This water, when it holds out, is used for drinking and all domestic purposes. One very necessary reform I hope we may shortly see carried out is the purchase by the localities, metropolitan and provincial, of all water companies, a constant supply being enforced, thus abolishing cisterns, which are more often traps to catch any passing disease than containers of pure and wholesome water. But the water supplied must be pure and wholesome, for there is no more ready vehicle of disease than water. It has been shown, over and over again, how epidemics have arisen from contaminated water. Very frequently it is drawn from a well near a leaky cesspool or drain. Persons have taken typhoid fever when contaminated water has been used for washing milk cans. As water is such a willing carrier of disease, the fact should be utilized for our advantage, and not to our destruction. As science grows, our power, not of controlling, but of utilizing the laws of Nature, increases. Our present knowledge enables us to use it to our advantage by conveying all impurities from our houses; and yet, for the most part, we only allow it to bring them to us. It is within our power to obtain pure water. Let us have enough of it to carry off to the sea, or into the porous earth, which is an equally effective purifier, all our refuse and dirt. But the source of water must be plentiful and

pure. Nature grants us this, but again we have abused her gifts. Look at our great rivers, and contemplate what they were and what we have made them. We have means to-day of distributing sewage over the face of the earth, where it was by Nature intended to be placed to nourish and improve the growth of the plants we require. Instead of this, we pour it into our rivers, where it is washed backwards and forwards by the tide, contaminating the water, and not only making it absolutely unfit for use, but converting the river itself into an open cesspool. I venture to think that there are many less useful questions brought before Parliament than that of the disposal of sewage and the

PURIFICATION OF RIVERS.

Air, as well as water, is essential to the well-being of the community, but the air must circulate, or it soon ceases to be pure. It is, however, not my province to dwell upon any particular method of ventilation even were I competent to do so, except so far as the action of the Legislative may prevent or assist the access of air to dwellings. Air is the common property of mankind, and no one should be allowed to deprive his neighbour of it by the erection of buildings in such a manner as to cut off the supply. By the Buildings Acts every house is obliged to have a certain amount of air space back and front, but in many cases these regulations are wholly disregarded. Houses are built back to back, or are separated by narrow alleys, the centre of which is often little better than an open drain into which the filth from the houses is thrown, contaminating the air before it reaches the windows. Air, like water, is a great destroyer of impurities, and consequently a powerful deodoriser. I remember an old friend of mine in the medical profession saying that the chief use in disinfectants was that they made such a smell in the room as to compel persons to open their windows and admit fresh air. Structural defects, too, are often the cause of much sickness. It too often happens that houses are built of the commonest materials, and put together with the worst workmanship. The drains very shortly become leaky and dangerous, and the houses, even were they not overcrowded, would be wholly unfit for habitation. Mr. Wilson Noble here took a brief survey of past and present legislation, and then continued: The law, therefore, seems tolerably satisfactory if we regard its provisions and not its results. But it is to the results that we must look, and if we ask why they are not more satisfactory, we shall find that one reason is the indifference on the part of the inhabitants to the requirements of sanitary regulations. But in the more crowded towns, both metropolitan and provincial, there exists one great difficulty. If you provide the people with a sufficient number of rooms to meet the

REQUIREMENTS OF DECENCY AND HEALTH,

and if these dwellings are provided with the necessary sanitary conveniences—if, too, they are to be built in such a manner as to ensure perfect ventilation, and prevent over-crowding, one of two things must result. Either the occupier must pay more rent, or the builder or landlord, as the case may be, must forego his interest on his outlay. If the latter, the result will be that the houses are not built at all. On the other hand, can the working classes afford to pay more than they do at present? Under the present conditions, I think not; but under other circumstances, I think they can. We have already seen what an exorbitant profit the middlemen sometimes make. You can, therefore, do away with him, or place under such stringent regulations as to prevent him letting lodgings in an improper condition. You cannot pass an Act of Parliament to say what rent a man shall pay, but you can enact that men shall not pay rent for dwellings that are unfit for habitation. We will suppose, then, that by means of legislation and inspection, we have places that are fit homes for the working-man. Can he afford to pay such rent as will give a fair return on the outlay, even though it should be higher than is at present paid? If we consider what he gains in return, we shall see that he can. Over-crowding and unhealthy dwellings produce debility, weakness, and exhaustion, rendering the poor particularly subject to sickness and disease. It has been found that at the lowest estimation every workman loses 20 days in the course of the year from exhaustion alone. Not only do those surroundings deprive a man of a certain number of working days, but they of necessity shorten his life. If, therefore, you can give a man such a home as to prolong the average span of life, you are surely giving him something that will be worth paying for. Not only does he gain strength, enabling him to work a larger number of days in the year, and so earn more wages, but you are also adding to the number of years during which he can work; and as you reduce the likelihood of premature death, so you reduce the premium of insurance. There are many items, therefore, in a poor man's expenditure which might most advantageously be devoted to a higher rent without increasing his expenditure as a whole. It may be said, and with great justice, that a working-man who is in regular employ might regard a higher rent for better dwellings as a good investment, but there are thousands below the regular wage-earner who have nothing to invest, and who cannot pay increased rent, no matter what advantages they may gain in doing so—in fact, often he can pay no rent at all. It is here where the real difficulty lies; and the question remains: to what extent are the Government called upon to find homes for these people? After expressing his opinion that it unwise to provide buildings out of the rates, he said: I do think some steps might be taken by Municipal or County authorities, backed up by an Act of the Legislature, if possible to invest money in the

THOROUGH SANITATION OF ROOKERIES

and other places where over-crowding and its unhealthy surroundings become a danger to the community at large. If I regard this for a moment from a monetary point of view, as I have done in the case of the individual, it is not because I consider this its most important aspect, but I do so, first, because the advantages of promoting the health of the body politic are so obvious as not to need insisting upon, and to prove, if possible, to those who might object to any increased outlay of public funds, that they are not wasting their money, but investing it to a good purpose; that, though they may appear to be casting their bread upon the waters, they will inevitably gather it again where they least expect it. It should, however, not be forgotten, as I have already pointed out, that County Councils have the power of erecting and controlling labourers' dwellings, charging such a rent as will give a fair return; but the enormous cost to them and the Trustees of the Peabody fund have hitherto greatly checked their undertakings. It is very desirable that public bodies should be encouraged to build as much as possible, as they are naturally satisfied with a smaller return than a contractor who builds solely for profit. I have it on the authority of my friend, Sir Lyon Playfair, that there are every year 125,000 deaths in this country from preventible cases. The investigations of Pettenkoffer have shown that there are 39 cases of serious sickness for every death, therefore we have annually four and a quarter million cases of preventible sickness, and as these cases last on the average 18½ days, irrespective of the 20 days mentioned before, we lose annually more than 78½ million days' labour, which, at 2s. a day, represents a loss of over 7¾ millions sterling. Surely, therefore, putting it on its lowest ground, it would be an economy to adopt sanitary measures, and an excellent investment for the localities to make. It is open to doubt whether you can appraise at any money value the life of an individual, but you may fairly compute money which will be saved by a proper outlay for sanitary purposes. To show what has been done in the way of saving life where sanitary improvements have been undertaken, I may mention that after the defects in the sewage of Salisbury had been remedied, the deaths from phthisis fell forty-nine per cent.; at Ely, forty-seven per cent.; Rugby, forty-three per cent.; and Banbury, forty-one per cent. What we also want is a thorough and efficient

INSPECTION OF DWELLINGS

and localities which are in an insanitary condition. I have endeavoured to point out that the legislation is satisfactory, but that where it breaks down is in the want of knowledge obtainable. I know that too close inspection is repugnant to our feelings, but we often have to submit to things we dislike for the public good, and you can only remedy sanitary defects when you have knowledge of them, and this knowledge can only be obtained like other knowledge, by seeking it. We are often told the Imperial Parliament is omnipotent, and can pass what measures it will. But there is in existence a code of laws which are older than the Parliament itself, which are most immutable than those of the Medes and Persians, and which are inexorable in their execution, and which are enforced by the terrible sanction of sickness and death. These are the laws of nature. You may make what regulations you like by means of your Imperial Parliament, but unless they are done in accordance with the laws of nature, they are worse than useless. Nature is not a hard task-master, because her ways are clear and well defined. She does not act in one way to-day, and in another to-morrow. You may repose the fullest reliance in her promises, knowing full well that as she has acted on occasion, so she will act again under similar circumstances. Some of these laws are known to us, others have as yet to be discovered, but are daily being revealed and placed at our disposal. We cannot always act in accordance with laws that we do not know, but do we always obey those which we do know? If we did, we should be relieved of much sickness, and its accompanying misery. It might be thought from what I have said that it would be useless to pass any measures of sanitary legislation, for nature will have her way in spite of you. If these measures were conceived in a spirit of antagonism to nature, they would be useless, or worse than useless, and you may depend upon it that where pestilence has visited a locality, or where there has been an abnormally high death-rate, it will be found that Nature's laws have been disobeyed. If, therefore, your legislation is to be of any avail, it must have for its object the utilisation of Nature's forces. There are constantly moving about in our atmosphere myriads

of disease germs, seeking, as it were, places where they can obtain a foothold. If our homes are clean and well ventilated, they will pass harmlessly by, but if they find any decaying matter upon which they can settle, they will certainly do so, and we pay the penalty. Let us, therefore, once and for all recognise the vital importance of living in a perfectly sanitary condition. We may be able to a certain extent to bring it about by legislation, but legislation is no use unless it is enthusiastically and intelligently carried into effect by the people it is intended to benefit. Whatever this legislation be, let it follow, and not seek to drive the forces of Nature. When we have done this we shall reap our reward increased comfort, a diminution of sickness and disease, and a lowering of the national death-rate. We shall obtain blessing greater even that prolongation of life, which, without health, is often a curse rather than blessing. Give a man health, and you give him something more to be desired even than length of days. You give him that which alone makes life enjoyable or even bearable—you give him contentment and happiness.

Nor love, nor honour, wealth, nor power
Can give the heart a cheerful hour
When health is lost. Be timely wise;
With health all taste of pleasure flies.

The Spirit of the Societies.

CLINICAL SOCIETY OF LONDON (Christopher Heath, F.R.C.S., president). **Hemiotrophy of the Tongue.**—This case was shown by Dr. THOMAS BARLOW, and associated with it was cervical spinal disease. The patient was a child who some two years before had been pitched off a barrow on to the top of the head; there appeared to be some peripheral paralysis, as evidenced by difficulty in swallowing, etc. This had been followed by atrophy of the right half of the tongue.

Disease of the Middle Ear, complicated by Suppuration in its Vicinity.—Mr. ARBUTHNOT LANE read brief notes of these cases, which had been under his care during the last few months, and the complication had differed in each case. He considered the risks involved in operative interference were very slight, and in doubtful cases the middle ear and its vicinity should be thoroughly explored.

Case 1.—A woman, æt. thirty-one, had, on August 21st, "ricked" her neck. She felt at the time as if something had given way in her right ear, which up to that time had caused her no trouble whatever. At the same time she noticed that pus was gradually escaping from the meatus. She was then affected with headache, gradually increasing in intensity in the right half of the head, with pain beneath the upper half of the sterno mastoid. Mr. Lane saw her on September 5th. Pus welled out freely from an aperture in the membrana tympani. The right ear was quite deaf. There was a tender and painful swelling beneath the upper half of the sterno mastoid. There was no optic neuritis. The mastoid cells were freely opened with a gorge, and were found to contain offensive pus, and a channel was cut into the middle ear, from which pus and caseous material were removed. A metal drain was fixed in the middle ear, and that cavity irrigated daily. On August 2nd an abscess, beneath the sterno mastoid, was opened, and a probe could be introduced through it into the mastoid process. The patient was now in excellent health.

Case 2.—A girl, æt. twelve and a half years, admitted into Guy's Hospital, under the care of Mr. Horne, on September 18th, 1888. In August, 1887, an abscess had formed in her right ear, and was well in a short time. She had no further trouble until fifteen days before admission, when she was attacked with great pain and swelling about the same ear. On admission, there was a large swelling, and a copious discharge from the meatus. This abscess was freely incised and irrigated, and was found to communicate through the meatus, between the cartilage and bone, with the middle ear. After this the child lost all pain, and went on well till September 23rd, when she became drowsy in the morning. The drowsiness increased during the day, the pupils dilated, and the child vomited. At 10-45 Mr. Lane saw the child in Mr. Horne's absence. The respirations were then extremely slow, the child was unconscious; there was no optic neuritis. Considering that an abscess in the tempero-sphenoidal lobe had probably ruptured into the lateral ventricle, he proceeded to operate, and removed from the temporo-sphenoidal lobe a quantity of offensive pus and fluid. A drainage tube was inserted, and the cavity thoroughly irrigated. The respirations became gradually normal, aud the child flinched when hurt. The improvement, however, did not last long, and the child died. The *post-mortem* examination verified the diagnosis.

Case 3.—A girl, æt. twelve years, had caught cold; had always been healthy till September 13th, 1888; she then observed a purulent discharge from the right eye which ceased in a few days. On September 25th, when blowing her nose she felt something crack in it, and she complained of pain in the back of her head. The pain continued till October 4th, when Dr. Horne was called in and asked Mr. Lane to see her with him. They found no pain or swelling about the ear or mastoid process. Fœtid pus escaped through a hole in the membrane. There was double optic neuritis and retraction of the head. The right ear was quite deaf. She was admitted into Guy's that afternoon. An operation was performed, and the child progressed well till October 8th, when the temperature ran up to 106° at 2 p.m. The headache and drowsiness returned, and she died on October 13th. The *post-mortem* examination showed that the dura mater pressing against the walls of the abscess cavity had sloughed, and the arachnoid cavity below the tentorium was in communication with the cavity of the abscess and full of pus.

Case 4.—Was admitted under Dr. Percy, August 15th, 1888; he was eighteen months old, and had suffered from periodical attacks of discharge from the right ear, preceded by pain every two months. A polypus was removed in 1887. On his admission on August 15th; he was in a semi-comatose state. Both discs were swollen. Mr. Lane was asked to see the boy on August 18th, and opened the mastoid cells freely, but found no pus. August 17th; the boy was better in the morning, but became dull in the evening. In the evening he had a rigor. August 18th, another rigor occurred. Mr. Lane gouged away a further portion of the mastoid process, and opened up a small collection of very offensive pus, adjacent to the lateral sinus. The lateral sinus was cleared of its septic contents upwards till healthy clot was reached. The internal jugular vein was hid below the thrombus to prevent any escape of blood from the sinus, and the entrance of antiseptic agents or septic material. The boy recovered very rapidly, and left the hospital well, and has since continued in excellent health.

Case 5.—W. S——, æt. eight years; for three years and a half he suffered from attacks of earache and otorrhœa on the right side at intervals of two or three months. On October 17th, 1888, he was attacked with earache accompanied with pain and sickness. On December 23rd he had two rigors in the morning, and December 24th, having had two more he was admitted into hospital under Mr. Lane's care. Mr. Lane operated, and the child lost the headache immediately, but suffered from pains in the abdomen, and his motions were very loose and offensive. For two days his temperature was moderate, but the pain in the abdomen came on at intervals. The boy became rapidly worse, and died on January 6th. Multiple abscess were present in both lungs, and especially in the right one. —Mr. GODLEE asked Mr. Lane whether he thought it always wise to explore the groove of the lateral sinus in all cases of suppuration. Mr. Lane, in reply, said he had no difficulty in clearing out the lower part of the sinus.

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HUNTERIAN SOCIETY (R. Clement Lucas, B.S., F.R.C.S., president). **Rickets.**—Mr. BIDWELL showed (for the president) a typical case of rickets in a boy æt. three and a half years. The head was much enlarged, with depression over the fontanelles, which were closed. The prominence of the occipital region, the stumpy appearance, the contracted chest, with well-marked headed ribs, the elevation of the sternum, the prominence of the abdomen, with the enlargement of the liver and spleen, the bowing forwards and outwards of the femora and tibia, with marked cardosis and genu-varum, were all very characteristic. The child had never walked. It had been improperly fed, but no family history of rickets or syphilis was obtainable.

Salol as a Dressing.—Mr. CORNER exhibited several cases illustrative of the antiseptic power of salol (salicylate of phenol) as a dressing for wounds after the pads had been rendered aseptic by a one in twenty solution of carbolic acid. Salol has a pleasant odour, and could be used freely without fear of poisoning or irritating, and when dry formed a hard but friable surface. A case was shown when the wound was dressed with salol and left untouched for a month, and remained sweet.

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BRITISH GYNÆCOLOGICAL SOCIETY. **Case of Ectopic Gestation.** —Dr. JOHNSON, of Calcutta, contributed the notes of a case of ectopic gestation in a woman, æt. thirty-two, who was admitted into the Calcutta Hospital on January 31st, 1889. She had been married twelve years, and had one child now living. She had puerperal fever after that labour, and had not been pregnant since. Menstruation has been regular up to three years ago; since that time the quantity has been less, and menstruation accompanied by bearing-down pains. The last period was September 22nd, 1888. On December 24th, while playing

tennis, she was seized with a sudden pain, and felt faint. She was put to bed, and a lump was noticed in the right lower abdomen. She recovered, and resumed her usual occupations, but on January 2nd she was again seized with a severe pain followed by retching. In the afternoon she became quite collapsed. On January 6th a sanguineous discharge supposed to be menstruation came on, and she passed a complete cast of the uterus, supposed to be the after-birth. She continued unwell for some time, but by the end of January she was free from pain. At that date a lump was found on the right tube, reaching to a finger's breadth above the umbilicus, and three or four inches across the os, was patulous, and the cervix soft. It was diagnosed to be a case of extra-uterine pregnancy at about the fifth month which had ruptured into the broad ligament. Owing to the patient's refusal the operation did not take place till February 8th. They removed a fœtus about seven to eight inches long. The patient was so exhausted by loss of blood that she eventually succumbed.—Dr. EDIS said that in all cases where the symptoms were sufficient to justify attention being directed to the patient the idea of extra-uterine gestation ought at once to be entertained before waiting for the patient to be collapsed.

Laparotomy for Tubal Disease.—Dr. E. SINCLAIR STEVENSON, of the Cape of Good Hope, contributed the notes of a case of tubal disease on which he had performed laparotomy. The patient was married, had had five children and one miscarriage. She had suffered for fourteen years from constant pelvic pain. Several times the pain had been so bad she was obliged to stop in bed two days. He found her to be suffering from disease of the right appendages, and advised operation. In December, 1888, he opened the peritoneal cavity, and removed the appendages. The patient recovered rapidly, and on the tenth day was practically well. Unfortunately, on the eleventh day vomiting set in with other symptoms of intestinal obstruction. As she appeared likely to die he re-opened the abdomen, and found the parts glued together, but the adhesions were easily broken down. The omentum was twisted ltke a rope. He remedied this, and washed out the cavity with corrosive sublimate. The patient made a good recovery. He pointed out that the obstruction was evidently due to the attachment of the omentum, and the case afforded a good example of the rapidity with which adhesions formed in peritonitis.—Dr. EDIS insisted upon the importance of covering the intestines with the omentum before closing the abdominal wound. Drs. Barnes, Bantock, Bedford, Fenwick also took part in the discussion.

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OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, May 2nd (David Little, vice-president, in the chair). **Transparent Cyst of the Iris.**—Dr. A. BENSON (Dublin) read an account of a transparent cyst of the iris occurring in a man æt. twenty. It had first shown itself about a year previously, then disappeared, and re-appeared again. It then grew rapidly, until it had filled three-fourths of the anterior chamber, at which size it remained stationary until it was removed by operation. The wound healed well. Photos were shown (before and after operation).

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WEST LONDON MEDICO-CHIRURGICAL SOCIETY (William Travers, M.D., president). **Case of Obscure Nervous Disease.**—Dr. CAMPBELL POPE showed a case of obscure nervous disease, characterised by hemianæsthesia and paræsthesia.—Mr. BALLANCE showed a child, æt. ten months, with a large nævus extending over the right half of the forehead and right upper eyelid, which had been treated by electrolysis. A slough had formed, but the child was doing will. Other cases were mentioned, the treatment discussed, and the use of electrolysis in avoiding any scar of a disfiguring character dwelt on.

Charcot's Disease.—Dr. KEETLEY showed a case of Charcot's disease.

Sarcoma of Anus.—Mr. SWINFORD EDWARDS showed a man æt. sixty-four, with a large anal growth. The growth was sessile, and completely obscured all view of the anus. Microscopic examination of a small portion of it showed it to be a mixed celled sarcoma. Mr. Edwards had been unable to find a report of a similar case.—After some remarks by Mr. S. Benton, Dr. ABRAHAM mentioned a specimen of sarcoma of the anus very like the present one, in the museum of the Royal College of Surgeons, Ireland. This case, and two others which he had microscopically examined, were all alluded to in Mr. Ball's work on Diseases of the Rectum.

Three Cases of Orbital Tumour.—Dr. RAMSAY read for Dr. Reid, Glasgow, the notes of three cases of tumour of the orbit. 1. Fibrous tumour, which occurred in a man æt. seventy-five, and after existing for seven months began rapidly to increase in size. It was successfully removed through an incision at the outer part of the upper lid. 2. Sarcoma of orbit in a man æt. thirty. The growth had been noticed for two years, and had given rise to a displacement of the eye-ball, and loss of vision in that eye. It was removed by dividing the upper lid vertically, near its centre, and dissecting down to the capsule of the growth. 3. Carcinoma of the orbit in a man æt. seventy-five. The removal of the growth was accomplished with great difficulty, in consequence of its deep attachments, and the necessity of preserving the eye-ball, the other eye being useless. Three or four months after the operation a secondary growth occurred in front of the ear, and from this severe hæmorrhage occurred. Death ensued ten months after the removal of the growth.

Adenoma of the Lachrymal Gland.—Dr. SIMEON SNELL, Sheffield, related two cases, and exhibited the specimens. The first occurred in a servant girl, æt. twenty-five, and was removed December 15th, 1887. Shortly before the sixteenth birthday the left eye was noticed to be larger looking than the right, and gradually became more so. At the time of operation the tumour was felt beneath the upper eyelid, the eyeball being displaced forwards, downwards, and outwards, but sight was unaffected. The growth was removed by dividing the external commissure, and then dissecting it out. The eyeball returned immediately to its normal position. The tumour was the size of a walnut, and flattened on two sides. The second case occurred in a child æt. eight months. A swelling beneath the left upper lid had been noticed when the child was a month old. On November 15th, 1888, a small freely movable tumour, the size of a bean, was easily removed.

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EDINBURGH MEDICO-CHIRURGICAL SOCIETY (Professor John Cheine, vice-president, in the chair). **Pleurisy.**—Dr. ALEXANDER JAMES read a very good paper on some points in the pathological physiology of pleurisy and pleuritic effusions. After a summary of the generally accepted views on the pathology of pleurisy, the question of locality was discussed. Primary iodopathic pleurisy was undoubtedly commonest towards the base, while secondary pleuritic conditions might occur at any point dependent on the nature of the primary lesion. The frequency of occurrence at the base had been explained on the ground that there the pleural surfaces were less protected by muscular covering than elsewhere. It was of extreme importance to remember as a casual factor, that at the base there was a much greater range of movement of the pleural surfaces. This had been experimentally shown by the making of "pleural windows;" with greater movement there was a greater likelihood of irritation. Once the irritation was present, the inflammation spread from point to point by a process of local infection. The effusion of fluid was also commonest at the base; but it should be recognised that in the absence of adhesions, the fluid did not stand at one uniform level, as in a jar, but the upper limit was curved from front to back.

THE HEALTH CONGRESS (HASTINGS, 1889.)

THE Congress was opened on Tuesday evening, April 30th, at the Royal Concert Hall, Dr. B. W. Richardson (president) being in the chair. He was supported by the leading sanitarians of the country. The chief business of the evening was the delivery, by Dr. Richardson, of his presidential address, "On the Health of the Mind," of which the following is a brief summary:

"He said he wanted to declare from the platform the mental side of sanitation, and to indicate that from the present time forward the health of the mind, not less than the health of the body, belonged to the true and earnest study of sanitary science. Speaking of mental purity, he observed that one primary truth, for example, at once came forth, that the mental food most early and most continuously supplied was that which, for health or disease, most potently affected the mental surface, and carved its place upon it. But the feeding of the mind governed the appetite of the mind, and by what the senses took in the health of the mind was good or bad, clean or unclean. Each sense made its own bed. Let the eye for long series of years take in no view save that which is squalid, and common, and impure, and by that custom the mind represents the fashion of what it sees. For art, for beauty, it would lose its primitive adaptability, whatever they might have been, and after a set time for attaining maturity will remain, in respect to purity of sight, a deformed mind, one that can at best only be partially and imperfectly improved. A mind so deformed was never in perfect health and strength. Why for it could the earnest sanitarian plead for open spaces, flowers, a clear sky, a clean street, an artistic dwelling, all that makes life strongest and happiest? Why, indeed? The difficulties sanitarians were compelled daily to meet in our work of reform lay, beyond any descriptions that could be given, in unhealthiness of mental visions. Every man and woman was, more than he or she thought, the reflex of the schoolroom. Let that room

be bright, cheerful, healthy, and life begins from a good mental starting-point. Let that room be dark, littery, melancholy, dirty, and the presage of life is injured from the starting-point. Sir Edwin Chadwick said that the physical condition of a whole nation might be told by a nose sufficiently critical. And the statement was true. Unfortunately, the sense of smell was not yet so freed from the odours of disease as to distinguish, with due refinement, where there was, and where was not, every hurtful thing that gives a venomous odour; but that want of refinement was due merely to absence of purity and to deficient knowledge of the odours that are injurious. The detective sense was blunted, and often so much blunted that the worst odours were unknown to the mind, and being unknown, allowed the causes of disease to enter without the vaguest suspicion of their presence. Further on, Dr. Richardson observed, suicide also has its season of height and decline, its maximum being reached in June, and its minimum in February, like a true epidemic; and again, he said men, knowing nothing of their own mental health, threw themselves into mental strifes and contentions for which they were as little mentally fitted as they were physically fitted to remove mountains. The man, with his animal life worn out by professional or business labours, determined to close his honourable career by undertaking senatorial duties, which called for mental animal work of giant power. Another, whose emotional mind—always the master of his intellectual part—had led him constantly into serious scrapes and difficulties, permitted himself to enter into contests in which the whole argument turns on sentiment, and breaks himself to pieces in the struggle. In conclusion, he observed that to neglect the mind was to neglect the body itself. We have been able only to give a few brief and dispointed extracts from a lengthy and most valuable paper, but we hope we have shown our readers how interesting it was.

At the close of the address, Mr. Wilson Noble moved, and Dr. Bagshawe seconded, a vote of thanks to Dr. Richardson, which was carried with loud acclamation. The President returned thanks, and after a few remarks in French by Dr. Santa, the meeting came to a close.

WEDNESDAY.

At the meeting on Wednesday, Mr. Wilson Noble, M.P., read a paper on "Sanitary Legislation," published in full at page 372.

Mr. Wilson Noble then took the chair, and Dr. Drysdale read a paper on "Legislation on the Agricultural Utilization of Sewage." Sir E. Chadwick and Dr. Pietra Santa spoke on the subject, and then Mr. W. Alexander, chairman of Council of Public Sanitary Inspectors, read a paper on "The Status of Sanitary Inspectors." Sir E. Chadwick and Earl Fortescue spoke, the latter referring to his experience as secretary of the Poor Law Board and chairman of a Board of Guardians. Mr. Mansell, on behalf of Mr. Haviland, author of "Geographical Maps of Diseases," read a paper on "A Plan for a Governmental Survey of Disease." Dr. Richardson warmly eulogised the paper, speaking of its immense value. Dr. Drysdale also spoke. Dr. Gray, on behalf of Dr. Green, superintendent County Asylum, Northampton, read an essay on "Hygiene of County Asylums for the Insane." On the motion of Mr. Noble, seconded by Professor Hughes, the discoverer of the microphone, a vote of thanks was passed to those who had read papers, and the Conference adjourned for luncheon. Upon re-assembling, Mr. Wilson Noble took the chair, and the first paper was presented by Sir Edwin Chadwick, K.C.B., upon "An Annual Census." This was read by Dr. Richardson. It contained suggestions for annual stock-taking and reports on them for economical and efficient administration by local authorities. With reference to the means of obtaining this annual report, the paper said the eligible course would be to select for the service that local officer, the exercise of whose functions occasions his visits to every house in the district. It proceeded to enumerate several, amongst whom the postman seemed the most approved. After the reading, the paper was commented upon by Mr. Washington Lyon, Dr. Drysdale, Dr. Greenhill, Dr. Bagshawe, Lord Fortescue, and Dr. Gray, all of whom were more or less in favour of the scheme. A resolution was then passed to the effect that the Congress was of opinion that it was most important for sanitation and other objects that an annual census be taken, and commending the matter to the notice of the Government. Mr. Wilson Noble consented to present it in the House of Commons, and Lord Fortescue in the House of Lords.

THURSDAY.

Thursday was a busy day, and it was only with difficulty that the programme could be got through. The first matter to deal with was the reading of a paper by Major-General Webber, who was a distinguished engineering officer in the Egyptian Campaign, on "Lighting in Relation to Health." He traced some experiments on growing plants by electric light, and showed the relative advantages of lighting by that means and by gas, and the necessity for the eyesight and health generally that the illumination should be a suitable one. This was the presidential address, and on the motion of Professor Ayrton, seconded by Professor Hughes, the General was accorded a hearty vote of thanks. Dr. Greenhill then read a paper on the "Health of Hastings" at the present time, compared with thirty-five years ago. He showed that the death-rate had decreased from 18.87 per 1,000 in 1854-54 (including the cholera year) to 14.43 at present time. In other respects there had also been an improvement, noticeable amongst them in the dwellings of the poor. The Sanitary Aid Association had done good work. Mr. G. B. Watters dealt with farm-yard sanitation, urging the importance of greater attention being paid to sanitation in the farm-yard, and showing the bad effects of dirtiness there. Mr. H. F. Lester, hon. sec. of the London Model Abbattoir Society, and Mr. E. A. Grattan, late British Consul-General for Belgium, advocated Abbattoirs, showing what a great improvement they were upon the present system of slaughtering animals. Mr. Hy. Colborne spoke on the meteorology of Hastings, showing how greatly favoured the town was in the amount of sunshine it enjoyed, and how sheltered it was, by reason of its situation, from the cold winds. The Borough Surveyor dealt with the water supply of Hastings. He described the sources from which the water was obtained, and the way in which the borough was supplied. He showed that the town was very fortunate in that respect. Mr. Keith Young showed the advantages of circular hospitals, and Dr. Bagshawe made some similar remarks. A very interesting debate took place in the afternoon of Thursday on "Cremation," Dr. Edward Haward advocating the incineration system. Mr. Seymour Haden, who could not be present, but whose address was read by Dr. Allen, advocated earth-to-earth burial as opposed to cremation, and argued that the body should be placed in a light coffin of wicker-work or similar substance, so that it would soon come under the destructive influences of the soil. Sir Spencer Wells showed how terrible was the state of the soil of churchyards. Cremation, he said, was also cheaper, and he also showed what he contended were the advantages of the system. Sir E. Chadwick, Rev. F. Lawrence, hon. sec. of the Burial Reformation Society, Mr. Hannen, hon. sec. of the Cremation Society, Dr. Richardson. Dr. Pietra Santa, and others, took part, the debate being of a most interesting character. In the evening Dr. Humphreys discoursed upon "Educational Overstrain," showing the evils which resulted from overwork, the address being extended in consequence of the unavoidable absence of Lord Brassey.

FRIDAY.

On Friday morning Dr. Bagshaw spoke on the "Preventive Side of Medicine," and then Miss A. Chreiman read a paper on "The Physical Culture of the Young," and was followed by Mr. Ed. Tidman, C.E., on the "Registration of Architects." Dr. Richardson read a paper on "Purification of the Air by Ozone," and an essay was presented by Lady Mount Temple and the Committee of the Ladies' Sanitary Association on "Women's Work in Sanitation." Another interesting subject debated was that of Vegetarianism, Mr. Knight, secretary of the Vegetarian Society, advocating that Association's principles, and Dr. Drysdale taking an opposite view. Considerable discussion followed. During the week the phonograph was on view at the hall, and large numbers of people were astounded by it. On Friday night a banquet was held at the Queen's Hotel, when a large and representative company was assembled. The principal toasts were: "The Houses of Parliament," given by Dr. Richardson, and responded to by Mr. Wilson Noble; "The town of Hastings," proposed by the President, and responded to by the Mayor; "The Leaders of Sanitation at Home and Abroad," submitted by Dr. Bagshawe, and acknowledged by Sir E. Chadwick, Dr. Pietra Santa, and Dr. Fisher (Canada); "The President," proposed by the Mayor, and suitably replied to; and the "Officers of the Congress," to which Dr. Richardson spoke, and to which Mr. Randell replied. On Saturday, in most lovely weather, a large company drove to Battle, Normanhurst, and Ashburnham, and in the evening, at the Royal Concert Hall, Dr. Richardson delivered an address on "The Health of the Body." A brilliant gathering was held at the Concert Hall, when the Mayor and Mayoress gave a conversazione, the audience including the members of the Conference, and many leading townsmen and townswomen, the proceedings proving of a very enjoyable character, and the gathering was a large one.

THE EXHIBITION.

The Exhibition was ready on Monday afternoon, April 29th, when, after lunching at the Brassey Institute, the Mayor, Corporation, and party, marched in procession to the specially-erected building in the Cricket Ground to perform the opening ceremony. At this time the hall was all in order, and looked most cheerful and attractive, with all the gay festooning of the flags and all the highly-coloured objects

ranged in striking positions throughout the annexe and the main body of the structure. After perambulating the various divisions of the show, the *cortege* at last returned to the platform, and, amidst applause, the speeches commenced. The mayor opened the exhibition with some well-chosen remarks, in the course of which he explained the origin of the exhibition, which had been first suggested in a chance conversation between himself and Dr. Richardson. The present undertaking he characterised as worthy of the high position held by Hastings and St. Leonards as a health resort, which he said was second to none in the kingdom, though other towns might have a position equal to it. Dr. Richardson followed and referred to the honour Sir Edwin Chadwick did them by his presence. He also spoke of the immense strides domestic sanitation had made during the past quarter of a century, and said that exhibitions such as this were amongst the best means of spreading the use of the many valuable health and sanitary appliances which of late years had been invented, and of educating the people in the most satisfactory management of their homes. He had seen many such exhibitions, and, according to what he could judge from a casual glance round the building, this was undoubtedly the best he had visited. He congratulated the Mayor and the borough generally on the success of the collection, and wished it every prosperity. Sir Edwin Chadwick then briefly spoke, and after a vote of thanks to the chairman for presiding, and the playing of the National Anthem by the band, under Mr. Haydon Millairs, the Mayor declared the exhibition open, and the formal proceedings closed with prayer offered by the Rev. T. L. Vaughan. The Mayor was seated on the rostrum which had been prepared for him in a prominent position in the annexe, and the Mayors of Lewes, Rye, Lichfield, Basingstoke, West Ham, and Hythe and the Corporation had their seats in the reserved portion below, where the Mayoress and Sir Edwin Chadwick were already seated. The exhibition was of a most miscellaneous character, as may be seen from the brief account I send of the principal stalls.

Entering the main building, and turning to the annexe, the first exhibit that attracted the eye was Messrs. Merryweather and Co.'s collection of fire appliances. Notable amongst these were the police ladder, which, by being detached, can be also used as an ambulance waggon, a fire engine and hose reel, and an ancient arrangement, used about the year 1585, for extinguishing conflagrations. We find here also a fire hose warranted to stand a pressure of 400lbs., and a Glenister-Merryweather Fire Engine, which should be particularly interesting to local people, from the fact of Chief Constable, who is also Captain of the Hastings Fire Brigade, being a part inventor. Next we came to some specimens—and admirable specimens too—of the skill of Mr. Campbell's firm of carriage makers. Chief amongst these exhibits were a circular-fronted brougham, fitted up with great luxuriousness, a Victoria, and a pretty four-wheeled dog cart. Near at hand was the establishment of P. Fosca, where sculpture was on view; and that of Mr. S. Deards, F.R.H.S., the inventor and patentee of the "Gold Medal" Victoria Dry Glazing and Champion Coil boiler, who has been awarded twenty-one gold, silver, and bronze medals and diplomas. Mr. Richards, of High-street, had for examination some medical appliances for delicate operations, and for the use of invalids. Messrs. Hamilton, of Brighton, who are the winners of several prize medals, had a number of couches which must be invaluable to invalids, inasmuch as special arrangements are made for support in unusual postures. Jeye's disinfectants, now so largely used, were just in their proper place—more appropriate than many of the other articles on view. Liddiard and Wordley showed many useful things, including patent screw and stationary ventilators, chimney pots and ventilating tubes. Jeye's sanitary pipes for domestic purposes were worthy of attention. Jaeger's woollen clothing was also shown in a stall specially set apart for its benefit. Messrs. Alderton, Keen, and Co.'s was another most attractive show, one of its special features being an assortment of pedestal lamps. Mr. C. W. Flint managed a stall containing Stott's Gas Governors. Mr. Rossitor, chemist, exhibited a number of his wares, and Messrs. Blomfield had some choice specimens of the photographic art, the plantinotype being the principal feature. E. M. Goggin's collection of bog oak ornaments commanded much admiration. On the right-hand side of the north annexe, Mr. Langley, of the Albert Hotel, had a refreshment department, and Fry's mineral waters. F. Stubbs, of London, showed some children's mail carts, which seem now to be all the rage, and Mr. J. D. Kenwade had some of Defries' patent safety lamps of all descriptions. Messrs. Alderton, Keen, and Co., had some excellent sanitary manufactures here, and Mr. J. G. Richards showed Turkish Baths for home use. Mr. Newing had some confectionery of a wholesome and desirable nature, and Mrs. Harman, of Verulam-place, shows a number of novelties for personal adornment. Other establishments hereabouts which were deserving of attention were those of Messrs. Burroughes, Welcome, and Co., Liddiard and Wordley, and the Pedeline Co. At the top of the right-hand avenue and crossing down the other side, Messrs. Wilson and Co., who supply the White Star Line with canvas, were located. Here also were various stalls, including those of the Messrs. Watkinson (boots and shoes), S. Smith, of London (quilaline, for cleaning purposes), J. C. Kenward (rocket air warmer, a local invention), D. Avis and Co. (heating and cooking stoves), Mrs. Lynn, J. C. Butler, Pink's, Fellows, Amon (block fuel), Randle (printing), Elliott (paving stone), and various others. In the central avenue (south) we had W. J. Hooper's jewellery establishment, and that of Messrs. Weston and Son, photographers, of St. Leonard's. Mr. Marriott, of Havelock-road, also showed some chemical appliances, and Amadoire and Co., of London, made a speciality of Roman rugs, coverlets, table covers, scarves, and shawls. A stall of perfumes was under the charge of Messrs. C. Hagen and Co., High Holborn. Messrs. Burroughs and Watts, the well-known billiard makers, were well to the fore in their branch of business, and their place attracts much attention. Amongst other things, they showed collapsible cues, switchback parlour skittles, and a table with Eureka cushions. They had also a department for other sporting materials. Fremlin Bros., brewers, exhibited many specimens of the ingredients used in the manufacture of their beers, and Jenner and Son, of St. Leonards, shew some new and improved hygienic boots and shoes. Notcutt and Son had a splendid display of Doulton ware, Tinworth's masterpieces, as exhibited at the Royal Academy, etc. Messrs. Slade and Messrs. Hermitage and Sons both showed a number of splendid musical instruments, and Ellis, Son, and Vidler had a selection of Nahan wines. The chief stalls in the South Avenue (south) were those of Hanmer and Co. (church furniture), the Eagle Range and Fountain Company, Bradford and Co. (machines), Greenhall and Co. (steam washers), Notcutt and Sons, Jennings, F. J. Parsons (printing machines at work, die stamping in operation, etc.), Crossley Bros. (Otto gas engine).

PROPOSAL FOR A PARLIAMENTARY INQUIRY ON HOSPITAL MANAGEMENT.

WE have received the subjoined draft of a proposed petition from the Charity Organisation Society. Gentlemen who approve of this petition, and are desirous of signing it, should send their names (on a separate slip of paper) to Mr. C. S. Loch, Charity Organisation Society, 15, Buckingham Street, Strand, W. C., from whom, also, forms of petition can be obtained.

To the Right Honourable the Lords Spiritual and Temporal of the United Kingdom of Great Britain and Ireland in Parliament assembled.

The Humble Petition of the London Society for Organising Charitable Relief and Repressing Mendicity and of others interested in hospital management.

Showeth as follows:

That the metropolitan hospitals, more particularly those to which are attached schools of medicine and surgery, are institutions in the well-being of which the community at large, rich and poor alike, have a direct and permanent interest;

That the sufficient support, good management, and thorough efficiency of these hospitals, whether as centres for the relief of poor persons suffering from disease or accident, or as schools for the advancement of medical education and practice and the furtherance of scientific research, are questions which may at the present time, for the reasons hereinafter stated, be with great public advantage submitted to the consideration of a Select Committee;

That there are in the metropolis eleven general hospitals with schools recognised by the licensing bodies for the examination of candidates for admission to the medical profession;

That the in-patients at these hospitals in the year 1887 numbered 44,364, and the out-patients 551,663;

That of these hospitals three are commonly known as the great endowed hospitals—namely, St. Bartholomew's, St. Thomas's, and Guy's Hospitals; that in 1887 the governors of Guy's Hospital, in order to enable them to carry on its work, had to raise a fund of £100,000 by means of voluntary contributions; while in the same year the governors of St. Thomas's Hospital expended £7,055 in excess of income.

That the other eight general hospitals published accounts, from which it is not possible to draw any certain statement as to the actual amount of their annual deficit; but that it would appear that, excluding legacies

and endowments on the one side, and extraordinary expenditure on the other, the annual expenditure may be estimated to exceed the income by about £51,700;

That, excluding hospitals or asylums for the incurable, cottage hospitals, and convalescent homes, there are eight general hospitals without schools and sixty-seven special hospitals in the metropolis with an income estimated at £294,500, and in- and out-patients estimated to number 32,500 and 505,150 respectively, that the data are not available for estimating with accuracy the annual deficit in the funds of these hospitals, but that it is on all hands admitted to be in many instances so considerable as to cause grave anxiety to those responsible for their proper maintenance;

That over and above the number of unoccupied beds required as a working margin in the administration of a hospital, there is reason to believe that at the present time a large number of beds are permanently unoccupied, owing to want of funds, though upon this point no certain estimates are forthcoming;

That besides the above hospitals there are thirty-nine voluntary or part-pay dispensaries, with an income estimated at £28,250, and out-patients estimated to number 264,500.

That in addition to all these institutions, and apart from the large provision made for the treatment of sickness in connection with friendly and benefit societies, there are thirty-one provident dispensaries, with an approximate income of £15,550 and 117,150 patients;

That, besides these voluntary hospitals and dispensaries, the poor-law authorities have now, in accordance with the Metropolitan Poor Act (30 Vict., c. 6), provided for the relief of the sick poor twenty-seven poor-law infirmaries, many of which, by reason of the suitability of their structure and the completeness of their arrangements for nursing and treatment, have assumed a place in the system of medical relief in London, which the hospitals alone filled before the year 1868; and that, consequently, there has of late years been a tendency to treat in these infirmaries not merely the cases of chronic illness or senile weakness which formerly found refuge in them, but maladies which require special and skilled medical care, such as could formerly be looked for only at the hospitals;

That it is estimated that since the year 1868 considerably more than £1,000,000 has been expended in the metropolis from the poor rates in the improvement, enlargement, and building of poor-law infirmaries and sick asylums, apart from the sum of £651,577 expended by the Metropolitan Asylums Board on nine hospitals and hospital ships for the treatment of infectious diseases; that from official returns it appears that, excluding the repayment of loans and the payment of interest, and deducting recoupments, the expenditure on the maintenance of twenty-three of the poor-law infirmaries and sick asylums, and their inmates, amounted, in the year 1887-8, to £336,205; and that in that year the number of days during which patients were severally maintained at these twenty-three institutions reached (exclusive of the cases of casual paupers) a total of 3,575,946;

That, further, forty-four poor-law dispensaries have been opened in different parts of London under the Act of 1868; that at these dispensaries, in 1887, 10,342 persons were treated who were on the permanent medical list, besides other cases in which 116,267 orders were granted, and that the number is apparently increasing from year to year;

That from the figures above quoted in respect of endowed, voluntary, and poor-law institutions, it would appear that ample provision has been made for the relief of the sick poor, and wide scope is afforded for the furtherance of medical education and scientific research;

That there are, however, in the present administration of medical relief in London some plain and very serious defects, of which many who are well qualified to judge are cognisant, and in regard to which complaint has frequently been made in the general and medical press;

That these defects touch very diverse, complex, and powerful interests, while as to their relative importance, and the remedies to be applied for their removal, there is the utmost difference of opinion;

That of these defects the following may more particularly be mentioned:

(1) The promiscuous congregation in out-patient departments of large crowds of persons who in most instances are suffering from slight ailments, for which skilled hospital treatment is quite unnecessary, is a constant hindrance to medical instruction, increases the discomfort and pain of those who are suffering from severe maladies, and occasions much vexatious and needless waiting.

(2) The indiscriminate admission to the benefits of hospitals and dispensaries tempts many who could pay for medical relief to become occasional recipients of charity, and by degrees habitual paupers.

(3) The provision of gratuitous medical relief to large numbers of persons, both as in- and out-patients, without inquiry or any sufficient regulation, is, as investigation shows, a serious obstacle to the promotion of provident institutions, at which medical treatment can be secured by small periodical payments.

(4) Hospitals and free dispensaries, as at present administered, usually offer no special advantages to those artisans and labourers who have combined to make provision against times of sickness, and there is no recognised relation between these hospitals and dispensaries and provident institutions.

(5) There is no clear and definite division of work between voluntary hospitals and dispensaries and poor-law infirmaries and dispensaries, but the former deal with cases which might more properly be left to the poor-law, and the latter with cases which from their medical interest or special requirements, or from the character and circumstances of the patient, might properly be treated in charitable institutions.

(6) By the multiplication of gratuitous and part-pay institutions, and the absence of regulation or organisation, those medical men whose practice lies among the poorer classes, are year by year more severely hampered in making a livehood.

(7) There is keen and continuous competition between hospitals, which spend year by year sums considerably larger than their average income would justify, and are thus driven to resort to all manner of contrivances to meet their liabilities.

(8) Year by year also new hospitals are (sometimes under very doubtful auspices) established for the treatment of special diseases, without any reference to the provision already available.

(9) The hospitals and dispensaries are often ill-grouped for local purposes, and though sometimes a hospital and one or more dispensaries are, from their position, conveniently placed for co-operation, there is no settled relation or agreement between them by which cases may be transferred from dispensary to hospital, and *vice versâ*.

(10) There is no uniform system of keeping and publishing accounts.

That on all these grounds, and inasmuch as there is now unfortunately no possibility of these defects being remedied by concerted action among the various institutions above referred to, it is a matter of urgent concern to the community at large, and not less to the hospitals, that all needful evidence should be collected and sifted, and the facts ascertained by an impartial body, such as a Select Committee, for only by this means will the information be forthcoming in accordance with which systematic reforms likely to be acceptable to all parties may be shaped, and the necessary ways and means agreed upon and provided.

Yours Petitioners therefore humbly pray your Right Honourable House that they will appoint a Select Committee, with special reference to the above statements, to make inquiry in regard to the financial and general management and the common organisation of medical institutions, endowed and voluntary, and in regard to the administration of poor-law institutions for the aid of the sick in the metropolis, and to make recommendations.

And your Petitioners will ever pray.

Signature. *Address.*

Surgical Aids and Appliances.

122.—A NEW NEEDLE-HOLDER FOR ALL KINDS OF NEEDLES.[1]

DR. W. W. VAN ARSDALE, Instructor in Surgery New York Polyclinic; Attending Surgeon Eastern Dispensary, has invented this needle. The jaws of the needle-holder work on the principle of Dr. G. R. Fowler's instrument, of Brooklyn. They are made smaller, however, so as to facilitate the application of buried sutures in small wounds, and, the joint being a French lock, straight needles can be retained in proper position by being placed behind the transverse portion of the jaws against the longitudinal surfaces of the shafts. While the

[1] Presented before the Section in Surgery of the New York Academy of Medicine, April, 1889. See *New York Medical Journal*, May 18th, 1889.

needle-holder, therefore, is especially intended for use with the Hagedorn needles, which are every day becoming more popular, it can be used equally well for straight needles, for needles partly or wholly curved on the flat, and for perfectly round needles.

In placing the flat Hagedorn needles in position, the same precaution should be taken as in the Hagedorn needle-holder proper—namely, that of placing the portion of the needle which bears the eye in contact with the right side of the shaft of the instrument. The point of the needle should emerge at the point of the beak of the instrument. This position allows of greater freedom of scope and of easier rotation of the handles. The present instrument holds even the smallest flat needles so firmly, however, that this point of position need not be insisted upon, as is the case with Professor Hagedorn's holder, which is frequently too weak in its action.

The shafts are sufficiently long to permit of placing sutures inside of cavities, though not too long to preclude delicate work in plastic operations. The instrument can be used for ophthalmic work, as small needles, curved on the flat, and held between the transverse portion of the jaws, can be closely approximated to the organ. The whole instrument is about seven inches in length in the present model. For use with the very largest flat needles made, it should be one or two sizes larger, the present one being intended for general use.

The handles are made of vulcanized rubber, conveniently fashioned to fit the hand, and can be made of any desired size to suit the operator. The posterior one is smaller than the anterior one, in order to facilitate rotation in suturing with curved needles; moreover, it is flattened on the surface, so that one can tell the position of the holder in the hand by the feel of it alone.

The catch consists of a tongue, provided with three angular ratchet-teeth, which fit into two retaining side bars in the opposite handle. When the first tooth is caught, the needle placed between the jaws is held moderately firm, and very firmly indeed when the second tooth operates; the third tooth, however, releases the catch by allowing the tongue to pass between the bars, and the instrument opens, releasing the needle. The action of the catch is in some sort automatic. By closing the handles of the instrument after placing the needle in position, the blades become locked, and remain so until the needle is passed, when simple further pressure upon the handles releases the needle, thus doing away with all difficult thumb movements necessary to release the needles in most other holders. In many holders the needle can only be released if the catch happens to be opposite the thumb of the operator; the present instrument can be readily opened in every position, even when held upside down.

The advantages of having a catch of some kind on a needle-holder are that an assistant can hand the instrument to the operator without danger of the needles falling out, and that when operating without assistance, the needle placed beforehand in the jaws will be retained in the proper position till the instrument is used. If, however, the operator prefers to hold the needle in the forceps uncaught while passing the sutures, he need only free the catch by pressure before passing the needle, and can then manipulate the instrument in the same manner as if it had no catch.

The instrument is a so-called antiseptic one. It can be instantly taken apart for cleaning. The blades readily come apart by means of the French lock. The two springs, which open the blades and work the ratchet-tongue, respectively, are made in one piece, and can be slid laterally out of the pivot-head which retains them. The tongue is moored in cannon-bearings provided with side-slots, from which it is easily disengaged after removal of the spring.

The hard-rubber handles are vulcanized on while the steel is still hot, and the whole is afterwards finished in one piece, presenting perfectly smooth surfaces. Even the name of the maker does not cause any unevenness of the surface, being made of metal and sunk into the handle so as to permit of a perfect finish, while remaining visible to the eye. The instrument is manufactured by the firm of George Tiemann & Co., of New York, and has proved very satisfactory.

123.—MEDICAL FIELD COMPANION (RICHARDSON'S).

VOLUNTEER surgeons going into camp with their regiments require a compact field companion, fitted up with medicines, etc. We have had a small companion fitted up for us by Messrs. John Richardson and Co., and we have found it answer admirably our requirements. The case is made regulation pattern, and when filled it can be easily carried by a bearer. The medicines can be selected by the surgeon, and if compressed tablets be selected this companion will hold enough medicine for even a campaign. Bandages, lint, vaseline, lanoline, iodoform, pills, tablets, can be stowed away compactly in one of these companions; and by a proper arrangement each article can be readily got at. A surgical haversack will also be found very useful fitted up according to regulation, with splints, bandages, tourniquets, dresser's case, etc.

124.—A SPLINT FOR USE AFTER TARSOTOMY.

MR. R. C. HOLT, L.R.C.S., Honorary Medical Officer, Victoria Hospital, Burnley, has devised this splint. The splint consists of a circular ring of iron, well padded; fixed to it are two parallel bars at right angles to the plane of the circle. To the distal ends of these bars is attached a footpiece which moves on hinges, and on the outer side of the footpiece are two hooks. After the operation for varus and the application of the dressings, the ring of the splint is passed up the leg, and the foot is securely bandaged to the footpiece at whatever angle it may be, for after the operation the foot still retains its deformity, partly on account of ligamentous attachments. Then the outer side of the ring and the outer side of the footpiece are connected by means of a rubber band ending in a chain to be hooked on to the footpiece, so as to have the tension required to bring the foot into shape. This may be altered according to circumstances.

The advantages of the splint are: 1. That the foot and leg are easily observed. 2. That the foot may be securely fixed without in any way interfering with the wound. 3. The tension is continuous and may be regulated. 4. The movements of the patient in no way interfere with its use.

In order to make the splint more useful, the hinges are made with movable pins, and at the heel end of the footpiece are the necessary portions of the hinge to fit on to the ends of the bars. Then it can be used for talipes equinus, there being hooks fitted on to the toe part of the footpiece.

The splint is made by Messrs. Down Brothers, 3, St. Thomas's Street, Borough.

125.—SUPPORT FOR THE LITHOTOMY POSITION.

Dr. W. C. WILE, of Danbury, Connecticut, has devised a simple apparatus for retaining the limbs of a patient in what is generally called the lithotomy position. It does away with the necessity for two assistants to hold the legs and thighs flexed, and conduces to greater steadiness of the perineum and buttocks. The apparatus was shown before the Section on Gynæcology at the thirty-ninth annual meeting of the American Medical Association.

The idea, in a general way, was derived, Dr. Wile states, from a pair somewhat similar in design, but not so perfect in mechanical construction, in the office of Dr. Bernays, of St. Louis. The most desirable apparatus must be one which will not impede the circulation of the blood of the limbs, or in any event do this as little as possible. The instrument is placed in position only after the patient is put under the influence of the anæsthetic, and on the top concave bar rests the belly of the gastrocnemius muscle, while in slots on each side of this is inserted a strap which passes around the sole of the foot, keeping the leg from slipping down, which would cause undue pressure on the popliteal artery under the knee-joint. Another point about this instrument is that the clamp holding the upright rod is so constructed that it is said to be impossible for it, under any strain which may be put upon it, to slip, the clamp grasping every portion of its periphery.

Medical Miscellanea.

THE subject of our next illustration will be Dr. Ward Cousins, Southsea.

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UNIVERSITY COLLEGE, LONDON.—Sir R. N. Fowler, M.P., the treasurer of University College, London, on Wednesday, May 15th, in the theatre of that College, distributed the medals and prizes in connection with the Faculty of Medicine. The Dean, Professor Marcus Beck, read the annual report, which stated that during the past year 340 students had attended the classes of the Medical Faculty and the practice of the hospital, ninety-nine of whom were new students. Out of a total of 207 who passed the various medical examinations of the University of London, forty-two, or 20 per cent., were from University College. Mr. F. W. Wesley won the entrance exhibition of £100; Mr. G. G. Spencer, of New Zealand, the exhibition of £60; and Mr. B. L. Abrahams that of £40. The Atchison scholarship of £60 per annum for two years has been awarded to Mr. T. L. Pennell; the Atkinson Morley scholarship of £45 for three years to Mr. W. H. Tate; and the Cluff memorial prize of £15 to Mr. A. Griffith. For the Bruce medals Mr. L. E. Hill and Mr. T. L. Pennell were the successful competitors. After distributing the medals and prizes, Sir R. N. Fowler addressed a few words of congratulation to the students.

Election of Examiners at the Royal College of Surgeons in Ireland.—At a meeting of the Council of the College held on Thursday, May 16th, the following gentlemen were elected Examiners for the College for the ensuing year:—*Anatomy and Surgery:* John Barton, William Stoker, William Thornley Stoker, Sir William Stokes. *Physiology, Histology, and Pathology:* Charles Coppinger, Richard A. Hayes. *Chemistry, Physics, and Materia Medica*: H. C. Tweedy. *Midwifery and Gynæcology:* Richard D. Purefoy. *Ophthalmology*: Arthur H. Benson. *Diploma in Midwifery*: Samuel R. Mason, Jer. O'Donovan, William Roe. *Diploma in Dentistry:* Daniel Corbet, jun., Robert Hazleton, George M. P. Murray, Henry G. Sherlock, William Stoker, Montgomery Albert Ward. *Diploma in Public Health:* Edmund W. Davy, D. Edgar Flinn, Edmund Lapper, J. Dallas Pratt. *General Education:* Michael A. Donnelly, Robert Morton, J. Dallas Pratt.

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Leprosy is said to be on the increase in Russia. During the last ten years, forty-nine patients were treated in the St. Petersburg hospitals, half of whom were natives of the city. The Baltic provinces suffer most from the disease.

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The next meeting of the Royal Commission on the Blind, the Deaf and the Dumb, etc., for the final consideration of their report, will be held about the middle of June, and it is anticipated that the report, evidence, and appendices will be ready for presentation very shortly after.

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Mr. James A. Campbell, M.P., occupied the chair at the dinner of the Glasgow University Club, London, at the Holborn Restaurant. In proposing the toast of "The Glasgow University Club, London," he said that the club tended to develop what had hitherto been neglected in the Scotch universities—the social aspect. For the information of those in the medical profession who are graduates of Glasgow University, and who may wish to join this club, we have pleasure in stating that the secretaries are Dr. G. A. Heron, F.R.C.P., 57, Harley-street, Cavendish-square, W., and Mr. J. R. McIlraith, barrister, 2, Essex-court, Temple, E.C.

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The annual dinner of the President and Council of the West London Medico-Chirurgical Society will take place on Friday, June 14th, at 7-30, at the Grosvenor Gallery, Dr. W. Travers, President of the Society, in the chair.

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Dr. Macarthur, Medical Officer of Grey Abbey Dispensary, has recently been presented with an address, along with an album and a purse of sovereigns. The presentation was made on the occasion of Dr. Macarthur's recovery from a severe illness.

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Mill collections of a penny per loom were recently made throughout the Blackburn district, towards a Fund opened as a memorial to the late Dr. Stephenson, medical officer for Blackburn, whose report, in 1887, gave fresh ground for the agitation against excessive steaming in weaving sheds. The Northern Counties Amalgamation, recognising the services Dr. Stephenson rendered to the Lancashire weavers, are giving the movement every support, and recommend collections all round. The fund already exceeds £1,000.

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Dr. F. G. Claxton Damian was last week entertained by a number of his personal friends at a farewell dinner, at the Royal Hotel, Grimsby. From the universal esteem in which Dr. Damian is held in the town and neighbourhood, the proceedings were of the most cordial character. The health of the guests was proposed by Drs. Stephenson and Allen, who each expressed, in appropriate terms, their high appreciation of the many valuable services rendered by Dr. Damian during his tenure of office as House-Surgeon to the Grimsby and District Hospital, and their great regret at his departure.

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Mr. Bolland Buck, wool-stapler, Bradford, lately deceased, has bequeathed the sum of £2,000 to the Rawson Convalescent Home, £1,000 of which is to be devoted to the building fund, and the remaining £1,000 to form the nucleus of an endowment fund. The testator has also bequeathed £1,000 to the Bradford Infirmary.

* * * *

"Were you wounded in the Crimea, Pat?"

"No, yer honor; the bullet hit me in the chist and kem out at me back."

"Why, Pat, that would have gone right through you heart."

"Och, faix, me heart was in me mouth."

Dr. Graily Hewitt has been elected a Fellow of the Royal Society of Edinburgh.

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☞ We would direct the attention of our readers to the draft petition published at page 378, for a Parliamentary Enquiry on Hospital Management.

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Manchester Infirmary—A Suggestion.—At the monthly meeting of the Board of Management of the Manchester Royal Infirmary, a letter was read from Dr. Walter Whitehead, one of the honorary surgeons, enclosing a letter from Miss Lees, of Southport. A maid in the service of Miss Lees was recently treated in the Infirmary for a sore throat, with most successful results. Miss Lees wrote to Dr. Whitehead enclosing a cheque for twenty-five guineas. "I wish I could express to you," Miss Lees said, "how deeply indebted I feel to you for having saved the life of a valuable servant. She speaks most gratefully of the extreme kindness she received from yourself and all who attended to her during her stay at the Royal Infirmary." In his own letter Dr. Whitehead says:—"I have received the enclosed letter, containing a cheque for twenty-five guineas, from Miss Lees, of Southport. As it is evident that the object of Miss Lees's generosity is intended to express her appreciation of the general kindness her maid received during her treatment at the infirmary, I beg to forward her gift to the committee with a suggestion that the money may be allowed to form a nucleus of a fund for the benefit of superannuated infirmary nurses. In case the committee accede to this suggestion I shall be glad to supplement the amount by a personal donation of a further sum of twenty-five guineas." The Board agreed to adopt Dr. Whitehead's suggestion, and a vote of thanks for his gift.

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It is with feelings of sorrow, says the editor of the *St. Louis Medical and Surgical Journal*, that we are called upon to chronicle the death of Dr. Samuel Weissil Gross, Professor of the Principles of Surgery, and of Clinical Surgery at the Jefferson Medical College. He died of pneumonia in Philadelphia, April 16th, aged fifty-three. Dr. Gross was one of the leading surgeons of Philadelphia, and was an acknowledged authority on genito-urinary surgery, and on tumours of the female breast. He was a man who with generous impulses united the learning and skill of a master. Despite the overshadowing influence of his father, he had succeeded in thoroughly individualising himself, and his untimely demise will be learned with regret by all who have been so fortunate as to enter into personal relations with him.

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We have received the 151st Annual Report of the Queen Charlotte's Lying-in Hospital, and we are pleased to be able to make the following extract from it:—"In the nine years since 1879, when the sanitary arrangements of the Hospital were remodelled, 6,970 patients have been delivered in the Hospital, of whom fifty-four have died, giving a rate of mortality of 7.74 per 1,000. Since 1883, from which time the use of antiseptics has been carefully carried out, *the mortality has been* 4.6 *per* 1,000. From 1857 to 1879 the death-rate was 27 per 1,000. There were two maternal deaths among the out-patients, the rate of mortality being 1.73 per 1000." We can hardly credit *antiseptics alone* with the lowered mortality, other factors must be taken into account. In the out-patient department antiseptics could hardly secure such results.

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The Metropolitan and National Association, whose object is to provide the sick poor at their own homes with trained nurses, held its annual meeting at Grosvenor House on Monday, May 20th, under the presidency of Sir Rutherford Alcock, K.C.B. The report referred to the fact that its amalgamation with the Queen Victoria Jubilee Nurses Institution had during the year materially increased its usefulness; 870 cases had been nursed, and 19,200 visits paid during the year.

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A stormy meeting was held at the Suffolk General Hospital, Bury St. Edmunds, on May 21st, to consider a resolution which proposed to increase the number of honorary surgeons and assistant-surgeons. A similar proposal discussed at the last general meeting was strongly opposed by the medical staff, and rejected. Considering the reopening of the subject to be "vexatious in the extreme," Mr. J. Milner, Dr. Macnab, and Dr. Image tendered their resignation as medical officers of the hospital. After a prolonged discussion on May 31st, the meeting resolved to refer back the matter to the committee which had raised the subject, with instructions "to confer with the medical officers, to ascertain whether an increase of the staff is required." Meanwhile these gentlemen have been requested "to continue their services, so greatly appreciated by the Board, until the committee has reported."

Dr. Clifford Allbutt, F.R.S., Leeds, has been appointed by the Lord Chancellor a Commissioner in Lunacy.

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The Queen has forwarded a donation of fifty guineas to the Royal Maternity Hospital, Finsbury Square, of which she is a patron.

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We regret to announce the death of Dr. Robert McDonnell, F.R.S., one of the most distinguished surgeons in Dublin, which took place suddenly on May 6th.

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The refinement of medical education in America has gone so far that a chair has been created in the University of Vermont for instruction in examination for life assurance.

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Mr. Shirley Murphy, late Medical Officer of Health for St. Pancras, has been unanimously elected medical officer to the London County Council.

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The Metropolitan County Branch of the British Medical Association gave, on May 15th, a brilliant soiree at the South Kensington Museum. Nearly 2,000 guests were present.

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It is now stated that Lord Herschell will be the chairman of the new Vaccination Commission. It is not yet definitely settled who the members of the Commission are to be.

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We learn that Dr. Shoemaker (Philadelphia) has retired from the editorship of the *Medical Register*, which will be now know under the new title of the *Times and Register*.

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A public meeting was held, May 4th, in Davidson's Main School, when Dr. Thomas Russell was presented with his portrait and a purse of sovereigns. Mr. Robert Smith, Clemniston, stated that the gifts represented the kindly feelings with which Dr. Russell was regarded by a large circle of friends in the parish of Cramond. The portrait, which is an excellent likeness, is the work of Mr. R. E. Fraser.

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On May 25th, there was a conversazione of the Volunteer Medical Staff Corps at the hall of the Tallow Chandler's Company. Many novel inventions likely to be useful in the field were shown, of which perhaps the most noteworthy was an electric search lantern. When the wounded man is found by its aid, a surgeon can hook the lighted portion on his chest, and so perform any operation which may be immediately necessary. A stretcher which can also be used as a field hospital bed, and which packs into a wonderfully small space, seems a good invention. It is brought out by an American firm. The Medical Staff Corps has been in existence for four years, and now numbers 1,100 members. The Manchester Corps has held the Challenge Shield for the best work in "first-aid drill" continuously since the competitions began.

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We learn from the *New York Medical Journal*, of May 18th, a serious accident has happened with the suspension apparatus, resulting in the death of a medical practitioner while practising self-suspension alone. The accident is not unparalleled in this community, which still remembers the death of an estimable young lady in the same way, and orthopædic surgeons are cognizant of many instances in which only assistance coming in the very nick of time has warded off a like fatal disaster. There is danger that public knowledge of these matters, especially in the light of the sensational manner in which one of the newspapers has seen fit to lay the latest occurrence of the sort before its readers, will lead to a popular prejudice against the use of suspension. But it should be borne in mind that physicians accustomed to its employment have again and again given their warning against the use of the apparatus in the absence of adequate assistance. Only recently, indeed, Dr. Hammond said: "Though perfectly safe when due care is exercised, suspension should never be made use of except under the immediate supervision of a physician. . . . I am quite confident that we shall some day hear that a neck has been dislocated, and sudden death produced by the unskilful use of this method." The only safeguard seems to us to lie in the use of an apparatus that cannot be worked by one person alone.

A most successful soiree was given by the Medical Society of London on Monday, May 6th. The oration was given by Jonathan Hutchinson, Esq., F.R.S., and the band of the Royal Artillery was in attendance.

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M. Pasteur has accepted the invitation of the Council of the Royal Society to deliver the Croonian lecture on June 23rd. Should M. Pasteur's health not permit him to deliver the lecture, M. Roux will act as his deputy.

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A most successful Bazaar was held last week in aid of the Bootle Hospital, Liverpool, the gross takings being about £4,500. The expenses being only £200, it gave a net result to the hospital of over £4,250.

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The Princess of Wales, accompanied by the Prince, laid the foundation stone, on May 5th, of the new Hospital for Women, Euston Road. It will accommodate forty patients. The estimated cost is £20,000, of which £7,000 still remains to be subscribed.

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Dr. Lauder Brunton, F.R.S., has been announced to deliver the Croonian Lectures at the Royal College of Physicians, London, on June 6, 13, 20, 27, and July 4. The subject is "The connection between Chemical Constitution and Physiological Action."

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An International Congress of Otology and Laryngology will be held in Paris, from September 16th to 21st, at the Trocadero Palace. Those intending to read papers should forward the titles of their communications, before July 15th, to the secretary, Dr. Loewenberg, Rue Auber 15, Paris.

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The distribution of prizes of the Volunteer Medical Staff Corp will take place on June 1st at 5 p.m. Her Royal Highness the Princess Louise will distribute them. The dinner of the Volunteer Medical Staff Corps will take place at the Holborn Restaurant, the same day, at 7.15 p.m.

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Dr. Murdock Cameron, physician to the Maternity Hospital, Glasgow, performed the operation of Cæsarean section on May 9th with complete success in the case of a woman, who was only forty-eight inches high, and was much deformed. The mother and child are both doing well.

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The annual meeting of the American Medical Association will take place this year on June 25th, at Newport. The presidental address will be delivered by Dr. W. Dawson (Cincinnati). Dr. Pepper (Philadelphia) gives the address in medicine; Dr. Connor (Cincinnati) on surgery, and Dr. Welch (Baltimore) on State medicine.

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The fourth meeting of the French Surgical Congress will be held in Paris, from October 7th to 13th, under the presidency of Baron Larrey. The following subjects are proposed for discussion:—1. Results, immediate and remote, of operations performed for local tuberculosis. 2. Surgical treatment of peritonitis. 3. Treatment of aneurism.

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At a meeting of the National Health Society, held in the Parkes' Museum, the chairman, Mr. Ernest Hart, said it was very satisfactory to notice the large increase of work done by means of addresses delivered to the poorer classes in some of the poorer neighbourhoods in London, on "How to keep Homes Healthy and Clean, etc.," and also in educating classes by lectures on nursing, ambulance, and hygiene.

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FUNERAL OF DR. MACKERN.—The remains of Dr. Mackern, who died at his residence, The Limes, Long Eaton, on April 28th, were interred at Long Eaton Cemetery. There was a very large attendance. Dr. Mackern was highly respected by all classes. There were representatives from the Local Board, School Board, the "Fearfield" Masonic Lodge, the Liberal Association, and the Oddfellows' Lodge. There were no conveyances, the coffin being carried by railway enginemen. At the parish church, the Rev. C. P. Smith (vicar) and the Rev. Edmund Jackson (curate) conducted the service, and the procession was then re-formed, the coffin being carried to the cemetery, where a plain grave, covered with flowers, had been prepared at the request of the deceased. Wreaths were deposited on the grave in large numbers, one being from the Rangers' Football Club. Dr. Mackern was a native of Ireland. He was forty-nine years of age.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16*th of the month.*

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

DIPHTHERIA IN SCHOOLS.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—What is the best thing to be done for all concerned when diphtheria makes its appearance in the confines of a large school where there are boarders and day scholars? Would it be more advantageous to have no boarders at the Government schools? How are European schools managed in this respect?—Yours truly,

PHILOS.

STATISTICAL INQUIRY.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Can you oblige the writer by giving the statistics of the amount of money going out of England yearly for alcoholic productions into France, Germany, Switzerland, Italy, America, and other countries in which alcohol is less burdened with duty than it is in England, and also the round sum procured annually by the Scotch from the said advantage over the English in their enjoying a monopoly in the manufacturing of chloroform, ethers, flavouring essences, etc.? In our attempts at moral reform, is it really necessary that we should act recklessly in regard to our having to cope with foreigners in the markets of the world—nay, even in our own market? Is it possible that any man can be so foolish as to imagine that, because the agent in question has been or is liable to be abused, that, therefore, English manufacturing chemists and industries must be restricted in their productions, crippled and defeated by other nations, by our adopting and perpetuating such a needless and suicidal policy? It is plain enough that Johnny Bull is not only obstinate, but blind to some of his best interests.—Yours truly,

PHILALETHES.

ACUTE RHEUMATISM.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—I fail to see the reasonableness of Dr. Harkin's views regarding the nature and the effects of his treatment upon acute rheumatism. The disease, in my opinion, is an inflammatory affection of joints with or without cardiac mischief; certainly not dependent upon, or *originating in* cardiac inflammation, any more than is tonsillitis, or erythema nodosum, or even so simple a disorder as the common boil. When a cure results by applying a blister to the chest, it certainly acts as Dr. Harkin indicates; but there remains the fact that the blood, having its heat increased by the local stasis in the bloodvessels of the affected joints, has no other organ to depend upon for its circulation except the heart. Is that organ therefore, simply because it takes on an exalted action by reason of distal mischief, to be accused of originating the disease? I say, no.

Again, "*when the salicylates relieve temporarily or produce symptoms of poisoning, it is solely through their action as heart depressants.*" I demur to this also. I think it is solely through the obviation of stasis in the blood itself. Tension is thus relieved, and vaso-motor circulatory nerves are less irritated. When poisoning takes place from continuing their use too long, it is simply from the reduction of the hœmoglobin, as has been, I believe, experimentally shown.

I am, Sir, Yours truly,

May, 1889. C. R. ILLINGWORTH, M.D.

COMPULSORY VACCINATION.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

DEAR SIR,—It appears that there is some chance of a Royal Commission being appointed to inquire into the working of the Compulsory Vaccination Act. Under these circumstances it may be worth while to inquire into the logic of compulsion of this kind.

It is said that out of 750,000 children vaccinated annually some forty or fifty are really killed by erysipelas. In India, it is well known that when the hot weather is approaching, it is not safe to vaccinate infants, as the operation produces too great a disturbance in the system, and in the part vaccinated, ugly ulcers. In colder climates there may sometimes be other causes which produce fatal effects after vaccination. Everybody does not get small-pox, even when not vaccinated. The proportion given of deaths after this operation is small, but anti-vaccination parents say, "why should we risk killing any of our children by vaccination, in order to prevent their dying of small-pox?" As between forty and fifty out of 750,000 must be killed annually, there appears some reasonableness in the logic of such parents. For these to run any risk of killing a child by compulsion would appear maddening, especially as it is not a matter of certainty that, if not vaccinated, the child would perish. Confluent small-pox is loathsome enough, but all cases are not confluent.

At the same time that we have compulsory vaccination, we appear to have compulsory small-pox also. For it is stated that small-pox hospitals, such as that of Sheffield, and others, act as centres of active infection. The people living in the vicinity of small-pox hospitals might be entirely free from attacks of this disease, were it not for the concentrated infection from such institutions. Curiously enough, cases of small-pox in similar localities might perhaps be brought forward as evidence of the necessity of compulsory vaccination!

Anti-vaccinators say: "It is we who would suffer, if we got small-pox, then, why do you bother yourselves about us?" Vaccinators reply: "It is not only you that suffer, but we and ours would run the risk of getting small-pox from you." Anti-vaccinators then retort: "Very well, protect yourselves *ad libitum* by vaccination. This operation is either a protection, or it is not. If it is, you have an efficient means of protecting yourselves against infection, either from us or from other sources. We certainly do not object to *your* being vaccinated, even once a month if you like. What we object to is that our children should be subjected to the risk of being killed by this operation." The objections of anti-vaccinators appear to be rather unanswerable on logical grounds.

The vaccination of nurses who attend the sick in small-pox hospitals appears right enough, as these persons are wanted to do work, not to be laid up in bed with small-pox when they are employed in such hospitals. It is doubtful, however, whether the institution of extensive small-pox hospitals is not a mistake, when infected patients are gathered together, and concentrated infection manufactured from them for dissemination among people in the vicinity. Vaccination in the army and navy appears also right enough. The operation is performed on adults who are wanted for active service, and not to be laid up in hospitals.

But we are always trying to do illogical things from a spurious philanthropic desire to benefit others. The spuriousness consists in the fact that it is not seldom the love of exercising power, and of worrying others, which prompts this kind of philanthropy. There are many who are endeavouring to enact compulsory temperance, because some cannot touch liquor without abusing it, *ergo* it is considered necessary to enforce total abstention among those who can enjoy the wholesome use of it without abusing it! Others would like to enforce abstention from the use of meat, because they can do without it, and so forth. Such compulsions would appear to be as sensible as if we compelled every one to wear pink drawers, or a tail coat, or a cocked hat, because *we* liked them!

E. BONAVIA, M.D.

LATERAL CURVATURE OF THE SPINE.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—The reviewer of Mr. Bernard Roth's book "On the Treatment of Lateral Curvature," after agreeing with the writer in condemning instrumental treatment and advocating exercises, falls into the usual error of mixing up ordinary and medical gymnastics. He says, "one of the essentials of Roth's treatment is that the surgeon himself should carry out certain of the daily exercises, and this, we think, constitutes the difficult feature of the method. The majority of patients cannot possibly obtain such daily attendance, neither can the majority of practitioners find time to give them. It is the rich few only who can afford the luxury of a three months' residence in a surgical home, and in our opinion it is very rarely necessary. We have obtained excellent results by a judicious arrangements of periods of rest, regular gymnastic exercises, and *some kind of mechanical support, etc.*" I hold that herein lies the whole difference between Roth's system and that of most other surgeons. When consulted by the scoliotic patient, the surgeon probably gives certain directions as to constitutional treatment, dress, position, etc., and finishes by ordering a trapeze, a horizontal bar, or some other gymnastic apparatus, dismissing him (or her) with instructions to use them regularly, or possibly to join a gymnasium. This is all very well as a preventive measure for young girls or those who do not get a proper amount of physical exercise, and in whom *no deformity* exists, but entirely useless from a curative point of view, except possibly in the earliest "postural stage." We might as well attempt to teach music by directing the pupil to buy a piano or a violin. To carry out properly the "re-education of the patient's muscular sense, and the systematic training of spinal and other muscles," *it is essentially necessary that properly selected exercises should be systematically and regularly performed, if not by the surgeon himself, at all events as prescriptions, under his personal supervision, by assistants trained for the purpose.*

Then again the reviewer differs from Roth in supplementing (or nullifying) the effect of his *exercises* by "some kind of mechanical support," and so attempting to "shore up" the patients instead of inducing them to keep the body erect by their own gradually increasing muscular force. I could show several notable instances of the fallacy of such mixed treatment, the only results of which have been an increase of the deformity, together with painful contusions from the pressure of the *support* (?) Then as to expense. Although, when possible, it is far more satisfactory to keep the patient continually under the surgeon's eye during the greater part of the treatment, I quite admit that in a large proportion of cases this is impossible, from pecuniary and other reasons, but nevertheless the exercises can be very fairly carried out by a half hour *séance*, two or three times a week, at the surgeon's rooms; and even in hospital practice very good results may be obtained from a short prescription gone through, say once a fortnight, in either case the mother or some intelligent friend being present who will carefully watch the movements, see that all the instructions are fulfilled, and assist in the exercises night and morning, and from time to time as the muscular sense is re-educated, and the strength increased, others can be added, the expense of a worse than useless, and frequently costly instrument being dispensed with.

I hold that no form of treatment by which we can hope to benefit our patients should be considered derogatory to a surgeon; and in the commencement of my practice of medical gymnastics, I conducted the exercises personally, and frequently do so now; at the same time there is no difficulty in obtaining the services of competent assistants, who can be trained to fulfil the duties of "medical gymnasts" to carry out the prescriptions under the supervision of the surgeon. I would commend most strongly to all interested in the subject of lateral curvature a careful perusal of Mr. Bernard Roth's monograph.—Yours truly.

May 13th, 1889. EDWARD L. FREER.

☞ NOTICES OF DEATHS, BIRTHS, AND MARRIAGES, occurring in the families of our subscribers will be inserted, free of charge, in the *Provincial Medical Journal* if sent, duly authenticated, to offices.

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2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
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8. The Analectic.
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10. The American Druggist.
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BRITISH:—

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16. The Medical Chronicle.
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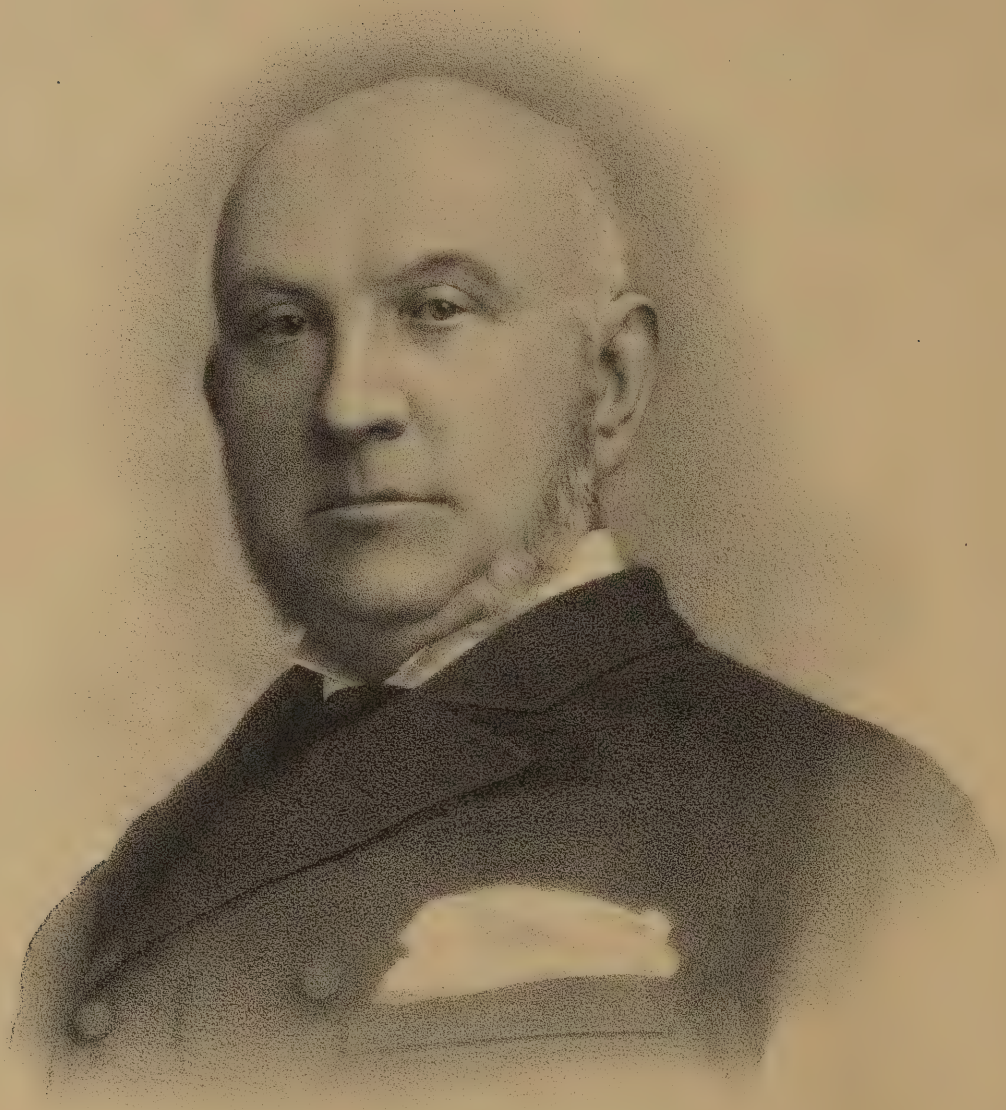

Yours faithfully
Thomas Davies

THE

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Our Portrait Gallery.

J. WARD COUSINS, M.D. LOND., F.R.C.S.

THE face of Ward Cousins must be familiar to those who attend the annual meetings of the British Medical Association. Since 1873 he has been a member of the council, and has taken a very prominent part in all discussions, thoroughly throwing himself heart and soul into all duties connected with the council, feeling the British Medical Association was an object worthy of the highest labour. The spirit which animated the founders of the British Medical Association has been handed down and still survives, and among the present members of the council we have men who are influenced by the best traditions and the highest motives, so that the present management may be safely trusted, whilst the future would seem to be assured.

Dr. Ward Cousins is the second son of the Rev. T. Cousins, who for over sixty years was an Independent Minister, the greater part of whose life was spent in connection with King Street Church, Portsmouth. Dr. Cousins, after receiving sound elementary education, studied under the late Dr. E. J. Scott, who for many years was one of the leading operators in the South of England. He then matriculated at London University in 1853, and the same year entered St. Thomas's Hospital as a student. Taking his first qualification as a member of the College of the Surgeons of England in 1856 (Cheselden Medallist in the same year), he was appointed Resident Surgeon of the City of London Hospital for Diseases of the Chest. After proceeding to the Fellowship of the College, and the M.D. of London University, he settled in practice at Portsmouth. For twenty-six years he has been Surgeon to the Royal Portsmouth Hospital, practising surgery only. He has invented a number of surgical appliances, which gained a gold medal at the International Inventions' Exhibition. The following are a few of his contrivances: Antiseptic inhaler, self-adjusting tongue depressor, aural syringe for self-application, aural inflator, evacuator and injector, washable truss, capillary catheter and bladder aspirator, gag with throat guard, flexible eustachian catheter, pressure forceps, elastic cord tourniquet, pelvic tourniquet for amputation at the lip, bed clothes elevator with fracture swing and extension apparatus, antiseptic trocar (convertible into empyema knife), colotomy dilator, surgical needle and thread, convertible stethoscope (single and double), surgical bandage pin with handle, needle holder with rotatory action, fixation forceps, continuous evacuator in litholapaxy and other bladder operations, splint for fractures of the lower jaw, sound deadener, and an antiseptic artificial tympanic membrane.

He was awarded the prize of £20 by the British Medical Association for one of his inventions, but this money he did not himself receive, but offered it as a prize for the best essay on abortion. Dr. Robert Rentoul (Liverpool) was the winner of this prize, and we have a valuable acquisition to our literature in the essay which Dr. Robert Rentoul has just published. Dr. Cousins, besides other appointments, is Surgeon to the Portsmouth and South Hants Eye and Ear Hospital. For many years he has been engaged in the development of this institution, and a Surgical Home for Women; also in the reconstruction of the Royal Hospital at Portsmouth, which now has accommodation for 130 patients, and wards for special surgical cases. He has contributed many useful papers to current medical literature.

Dr. Ward Cousins is distinguished for his singular caligraphy, and his prescriptions have been a puzzle to many dispensers. Among the "illegible prescriptions" represented in "The Art of Dispensing," and published at the offices of the *Chemist and Druggist*, a *fac-simile* of his handwriting will be found.

We have had some experience of his writing, and we have to judge by the context, and by a few words which are legible, what his letters are about.

Original Communications.

THE CONNECTION BETWEEN MILK SUPPLY AND DISEASE.[1]

BY A. M. DAVIES, M.R.C.S.,

ASSISTANT PROFESSOR OF HYGIENE, ARMY MEDICAL SCHOOL, NETLEY.

AT the meeting of the International Medical Congress, held in London in the year 1881, Mr. Ernest Hart contributed a most valuable paper on "The Influence of Milk in Spreading Zymotic Disease,"[2] in which he tabulated a series of fifty epidemics of typhoid fever traceable to milk, fifteen epidemics of scarlatina, and seven of diphtheria, similarly traceable, as well as one outbreak of an anomalous character at Aberdeen, the cause and nature of which was not then fully made out, though the connection with the milk supply was evident. During the eight years that have elapsed since then, a considerable body of additional evidence has accumulated, and the scope of the enquiry has been widened, both by the inclusion of at least one other disease, in addition to the three just mentioned, and as well by the more extended views which have been recently expressed with reference to the mutual relationship existing between man and the domestic animals in regard to the communicability of disease.

The diseases, to the communicability of which through the medium of milk I wish to draw your attention, are: (1) Enteric fever, (2) scarlatina, (3) diphtheria, (4) tuberculosis. To these may be added some cases of *rare, but occasional* spread of other forms of disease, and some anomalous cases of acute poisoning.

I.—ENTERIC FEVER.

The fifty epidemics tabulated by Mr. Hart in 1881 included in round numbers 3,500 cases; of these epidemics, one occurred as far back as 1857, the others in the years 1870-1880. Though some of these are classical instances and familiar to most members of our profession, perhaps it will not be a waste of time if I refer to two or three of the most marked of them, in which the connection of the disease with the milk supply was demonstrated—almost with mathematical proof.

1. In July and August, 1870, an epidemic of typhoid broke out in Islington, which was reported on by Dr. Ballard. There were 175 cases and 30 deaths; of these 175 cases, every one occurred amongst the drinkers of the milk that was suspected; and out of 142 families that were supplied by the one particular milkman, 70 were invaded by the disease. These are two points that it is most necessary to state clearly and numerically—(i.) the number of cases that occur amongst the drinkers of the milk, which therefore may *possibly* owe their origin to that source; and (ii.) the number of families supplied with the milk, which therefore may *possibly* get infected from that source. In the present instance, the proportion was—for the first point 100 per cent., and for the second point 49 per cent. These cases mostly occurred within a limited area; the families attacked were in well-to-do circumstances; no insanitary condition was found to be common to the houses; the fever picked out customers of the dairy in particular streets and rows of houses; and finally, in many instances it was shown that it was especially the milk drinkers who were attacked. A tank at the business premises of the dairy, the water from which was used for "washing the cans" (which is often a euphemism for diluting the milk), was found to be in communication, by means of rat-burrows, with two old drains; but no *specific* pollution of this tank water could be traced.

2. Another classical instance is that of the Marylebone outbreak in July and August, 1873, investigated by Mr. Netten Radcliffe and Mr. Power. There were 244 cases and 26 deaths; of these 244, 218 were drinkers of the suspected milk, *i.e.*, 89 per cent.; while of 760 families supplied from the dairy, 118, or 15 per cent., were invaded by the disease. All the cases occurred in the nine weeks ending 30th August, and within a circumscribed area, mostly amongst well-to-do people, in houses without any community of sewerage or water-supply. The disease picked out the streets to which the milk was distributed; and, moreover, an isolated group of twelve cases occurred in another part of London, where there was a branch of the suspected dairy, and where eleven out of the twelve cases purchased the milk. The implicated farm only supplied about one-sixth of the ordinary milk distributed by the dairy, and this will account for the partial incidence of the fever upon the customers, only 15 per cent. of the households supplied being affected. At this farm water was used for dairy purposes that was obtained from a well liable to pollution from its position. The farmer on June 8th died suddenly of ambulant typhoid. The stools had been buried in an ash heap, whence they might have gained access to the well; and there were heavy rains on June 29th, which would render this more likely. Therefore, a specific source of infection was, at the very least, possible.

3. A much greater incidence of the disease upon the customers of the suspected milk supply was found in the outbreak at Eagley and Bolton (Lancashire) in January and February, 1876, investigated by Mr. Power and Mr. Robinson. Here there were 195 cases and 13 deaths; and of 59 families supplied with this milk, 55 were attacked, *i.e.*, 95 per cent.; while in eight families otherwise supplied that were attacked, in six out of the eight the members had been partakers of this milk at their neighbours' houses. Another series of 144 cases, with eight deaths, occurred at Bolton, two miles distant; and out of 50 families supplied from the same dairy, 47, *i.e.*, 94 per cent., were invaded. The neighbourhood had been free from fever, or other illness, for some months, and there was no community of drainage or water-supply to the district affected. The water-supply of the dairy farm-house was derived from a brook exposed to excremental pollution, and large quantities of fæcal mattter were actually found in the brook, though no specific contagion could be traced.

4. A widespread outbreak occurred in Glasgow in April, 1880, reported by Dr. J. B. Russell, in which there were 508 cases and 69 deaths—373 cases, or 73 per cent., being amongst drinkers of the suspected milk. The dairy was supplied with milk from thirty farms, all of which appeared to be in good sanitary condition, except one; here was a well exposed to possible pollution from a dung-heap, and on this dung-heap had been thrown excreta from enteric cases. A dairyman at this farm sickened with enteric fever in March, and subsequently two children of the farmer. Another girl, who passed a night in the house in nursing one of these children, partook of the milk, and sickened fourteen days after. On the day after the two children sickened, the first lot of milk was sent into Glasgow, and *exactly fourteen days afterwards*, the first case

[1] Read before the Southampton Medical Society.

[2] *Transactions*, International Medical Congress, 1881, iv., 491.

in the area of the milk supply fell ill. "The entire body of trade was tainted. It was associated with fever in the dairyman's own household, in persons served direct from his own cart; it poisoned the families of the dealers through whose shops it passed to the public; and it poisoned the customers who dealt at those shops." The milk supply was stopped, and the epidemic died out.

5. An epidemic of 44 cases, with 8 deaths, occurred at Worthing in October and November, 1880, reported by Dr. Kelly, in which every one (*i.e.*, 100 per cent.) of these 44 cases occurred amongst the customers of a particular dairy, in different parts of the town. A shallow well was used for dairy purposes, into which was traced soakage from a defective drain, leading from a house in which a fever case had occurred.

EPIDEMICS OF MILK-TYPHOID.

No.	Date.	Place.	Reporter and Reference	No. of Cases	No. of Deaths	No. of cases among drinkers of suspected milk.	Per cent.	Circumstances of Outbreaks.
1	1880 Sept., Oct.	Bridlington	Dr. Parsons, *San. Rec.*, Sep., 1881	48	..	48	..	Well at dairy liable to pollution. Case of typhoid at dairy.
2	1882	Leicester Infirmary	Dr. Elgar Buck, *San. Rec.*, June, 1882	12	..	12	..	All cases drinkers of raw milk. Well at farm liable to pollution. Milk purveyor died from typhoid.
3	1882 May, June	Glasgow	Dr. Russell, *B.M.J.*, July 8, 1882	59	6	50	85	Nearly all the cases occurred in one week.
4	1882	Clapham	*B.M.J.*, Aug. 5, 1882	20	..	19	95	All cases occurred within twenty-four hours.
5	1882	Halifax—Stone Chair	Dr. Britton, *B.M.J.*, Oct. 14, 1882	11	1	11	100	Untrapped drain in room where milk was stored; polluted water. Two cases of probable typhoid at farm.
6	1883	St. Pancras	Mr. Shirley Murphy, *Prac.*, 1883, xxxi., 386	..	..	..	..	Outbreak traced to a particular milk-supply from St. Albans.
7	1883 Oct., Dec.	New York—Port Jervis	Dr. F. C. Curtis, *Lancet*, Feb. 7, 1885	148	..	128	87	Out of about 500 consumers of suspected milk, 128 cases occurred. Sudden outbreak; sudden cessation. Typhoid cases at dairy farm.
8	1883 Oct.	Dundee	*B.M.J.*, 1883, ii., 839	..	..	36	..	Typhoid at dairy.
9	1883	Stricken, near Aberdeen	*B.M.J.*, 1883, ii., 1146	..	..	..	..	Typhoid at farm.
10	1884 May, June	St. Albans	Mr. Shirley Murphy, L.G.B. Supp. for 1884, also Dr. C. E. Saunders, *B.M.J.*, 1884, i., 1162 and ii., 1086	131	23	..	..	Six different retailers, all of whom drew a portion of their supply from a particular farm where there was typhoid Of 396 houses supplied with suspected milk, 86, or 21.7 per cent., were invaded. 2,127 houses within city boundary otherwise supplied, of which three only, or .14 per cent., were invaded. Total number of houses invaded, 90. Some of the milk was sent to London, and fever cases occurred in connection.
11	1884 Aug., Sept.	Glasgow Hospitals	Dr. J. B. Russell, *B.M.J.*, 1884, ii., 626, 724	143	32	..	..	At one of the dairy farms whence milk was supplied cattle suffered from a disease possibly due to bad drinking water. Dairy maid had typhoid.
12	1884 Oct.	Derby	*B.M.J.*, 1884, ii., 786	..	..	..	..	Well liable to pollution, and case of typhoid at dairy farm.
13	1884	Tweedmouth	*San. Rec.*, Nov., 1884	23	..	..	..	Typhoid at milkman's house.
14	1886	Lancing College	Dr. Kelly, *Prac.*, xxxvii., 223	14	2	14	100	Outbreak traced to partaking of strawberries and cream. Well at dairy whence cream was supplied liable to pollution. Many other fever cases in Shoreham connected with same dairy.
15	1886-7	Carlisle	Dr. W. Brown, *Practitioner*, xl., 383	25	..	24	96	Typhoid at dairy; also a febrile disorder among the cows previously.
16	1886	Swanage	Mr. W. Harvey, L.G.B. Supp. for 1886	..	..	..	..	
17	1888	Evesham	Mr. Fosbroke, *Pub. Hea.*, Feb., 1889	6	1	5	83	Typhoid at dairy. Polluted water. Milk adulterated.
18	1888 Aug., Nov.	Spennymoor	Dr. Spear, *Pub. Hea.*, June, 1889	..	..	..	..	Nineteen families attacked; eleven supplied from particular farm. Families supplied from this source, 144; supplied otherwise, 500. Relative incidence of fever 7.5 and 1.6 per cent. Typhoid at farm, and polluted water. Dr. Spear doubts causal connection of milk supply.
19	1889 Feb.	Stirling	Dr. McFadyen, *B.M.J.*, June 1, 1889	40	4	?40	?100	Water polluted; typhoid at farm; air of milk-house liable to pollution. All cases which occurred were supplied with milk which had been kept overnight in the milk-house; families supplied direct from the byre escaped.

I have selected these five instances, out of the fifty collected by Mr. Ernest Hart, as being very typical, and each illustrating especially one aspect of the subject. In the Islington epidemic of 1873, out of 175 cases, every one (*i.e.*, 100 per cent.) occurred amongst the drinkers of the suspected milk; but there was no evidence of specific typhoid pollution. In the Marylebone epidemic of 1873, there was strong evidence of specific pollution; and out of 244 cases, 89 per cent. were suspected milk drinkers. In the Eagley and Bolton epidemic of 1876, though no specific infection could be traced, 95 per cent. of the families supplied from the suspected source were invaded by the disease. In the widespread outbreak at Glasgow in 1880, specific pollution seemed proved, and the incubation period of fourteen days seemed established. While, lastly, in the 1880 epidemic at Worthing, every one of the 44 cases (*i.e.*, 100 per cent.) occurred amongst the suspected milk drinkers, and specific pollution appeared most probable.

I have collected notes of nineteen epidemics subsequently to those tabulated by Mr. Hart, some details of which appear in the accompanying table. Three of these instances, however, especially present points worthy of notice.

1. An outbreak[1] occurred in 1884 in the Glasgow Hospitals, attacking successively the Western Infirmary, the Royal, and the Belvidere. This was traced conclusively by Dr. Russell to the milk supplied from one particular farm. At this farm a dairy-maid was attacked by enteric fever at the same time as the outbreak in Glasgow; but before this the cows had been suffering from a febrile disease which a local veterinary surgeon attributed to the badness of the drinking water. This water was found to be grossly contaminated with sewage products, and enteric fever was endemic in the adjacent villages. Here there is a possibility of the typhoid having occurred at the dairy farm in an ordinary way, having been conveyed there from an adjacent focus of infection; and there is also a possibility of a connection between the first case at the dairy and disease among the cows.

[1] *British Medical Journal*, 1884, ii., 626, 724.

2. A small outbreak[1] occurred at Carlisle in 1886-7, traced unmistakably to a dairy where typhoid cases had existed. But there was nothing to show how these cases had originated, water supply and sanitation being quite good, except that the cows had suffered from a febrile disorder previously.

3. An epidemic[2] broke out at Lancing College in 1886, where the sanitary surroundings seemed perfect, and where there was a private dairy farm attached to the college, in perfect order. After very careful investigation it was found that some cream—partaken of as strawberries and cream—was the cause of the outbreak. No specific pollution could be traced, though there was a well at the particular diary (in the neighbouring town where the cream was procured) which was exposed to fæcal contamination.

Of Mr. Hart's fifty epidemics, thirty-nine appear to be distinctly traceable to a specific pollution with typhoid contagium; in six there is no record; and in five it is stated that there is no evidence to point to this source of infection.

Of the nineteen outbreaks I have brought together, twelve appear to be traceable to specific pollution; in three there is no record; in four there is possible or probable contamination; while in two of the cases, although specific infection was possible, it appeared as if some cow disease might have been the cause of the infective property of the milk. One important fact was repeatedly noticed in investigating these epidemics—that in a very large number of cases the incidence of the disease fell mostly upon those who drank milk in large quantities, children for instance, and particularly upon those who drank it "from the cow," as it is said, or "straight from the dairy,"—*i.e.*, unboiled.

Now, assuming that enteric fever can be spread by means of milk, which I think this body of evidence justifies us in doing (although in France and Germany such is not the opinion, at any rate, universally), in what manner, or in what different kinds of manner is the infection brought about? It may occur conceivably in one or more of four different kinds of ways:—

1. As water is the most common vehicle for the spread of the typhoid contagium, this latter may gain access to milk either (*a*) through the deliberate addition of water to the milk as an adulterant; or (*b*) through the use of water for washing milk cans or dairy utensils.

2. Supposing that the specific contagium, of whatever nature it be, is floating about in the air, as in particles of dried excrement in dust, it may sink down on to exposed surfaces of milk, and impart to the milk an infective property.

3. The contagium may be communicated to the milk through anyone combining the functions of milk seller, dairyman or dairymaid, and sick nurse to a typhoid patient, by means of soiled hands or the like.

4. Lastly, it is *possible* that cows may suffer from some such disease, communicable to man through the medium of the milk.

To one of these four categories, I think, must be assigned every instance of spread of the disease through milk; probably the great majority of cases are due to the first manner, while until dairies and milkshops are effectively supervised as to their sanitary conditions, and the health of their inmates, the second and third methods of infection are sure to be found to occur. The last way, from a disease of the cow itself, is as yet without anything approaching proof, but the two outbreaks mentioned—at Glasgow and Carlisle—have served to direct attention to the matter, which is, *a priori*, not inconceivable.

[1] *Practitioner* xl. (1888) 383. [2] *Practitioner* xxxvii. (1886) 223.

II.—SCARLATINA.

Up to 1881 Mr. Hart tabulated only fifteen outbreaks of scarlatina traceable to milk infection.

1. Of these, the first, in 1867, was described by Dr. M. W. Taylor, of Penrith (who had also described the first epidemic of milk typhoid ten years earlier). In this instance there were 111 cases, and all of them were drinkers of the suspected milk, the milk retailer's child suffering from scarlet fever.

2. Another noted instance occurred in South Kensington, and was investigated by Dr. George Buchanan, in 1875. On June 9th a dinner party was given in that neighbourhood, of sixteen persons; about 150 guests assembled in the drawing room after dinner, and fourteen servants were engaged in waiting. Between June 11th and 14th, out of these 180 persons, eighteen fell ill either with scarlatina or sore throat, as well as one other case, that of a lady who lunched at the house next day. There was but little scarlatina in the locality, and except for the meeting at this particular house, no common centre of infection, or other common local circumstance, to account in any degree for the disease attacking these particular persons. The only circumstance that afforded any explanation of the attacks was the cream supply, which came exceptionally from a London dairy. All who were taken ill had partaken of cream in one form or another, and all the ladies who took cream in coffee after dinner—to the number of seven—became ill; also all the ladies—four—who partook of cream dishes at lunch the next day were attacked. It is gratifying to know that no deaths occurred.

3. In June, 1879, several remarkably sudden and rapidly fatal cases occurred in a particular district at Newcastle-on-Tyne. Out of twenty-three cases ten died. The milk supplied was derived from one particular source in every case, with one exception. But no scarlatinal infection could be traced, even after the most careful enquiry.

4. At Fallowfield near Manchester, in August, 1879, there were thirty-five cases within a month, of which twenty-four were attacked within a space of thirty-six hours. They were all drinkers of a particular milk, and one of the milkers was lodging in a house where his grandchild was desquamating after scarlet fever. From the character of the surroundings, carriage of infection was most probable.

5. At Ilkley in Yorkshire, in November, 1880, a small outbreak of ten cases occurred, all drinking milk furnished by one purveyor. There was no disease at any of the farms or dairies, but the custom at this place was for the milkman to take his milk *into* his customers' houses in *bulk*, and this particular milkman had provided a family in which the children had been attacked with scarlet fever a month previously, and were therefore now in the desquamating stage—hence the probable absorption of infective material by the milk.

6. The most extensive epidemic reported was one that occurred at Halifax in 1881, with 510 cases and 86 deaths. Out of 135 families supplied by the dairyman, 53, or 39 per cent. were invaded. The circumstances pointed conclusively to the infection of the milk from scarlatina in the family of the farmer's man, who milked the cows and distributed the milk.

These cases are all noteworthy as showing, either (1) as in the first and sixth instances, at Penrith and Halifax, the large incidence of the disease on the suspected milk drinkers: of 111 cases of scarlatina, *all* drank the milk; of 135 families supplied, 39 per cent. were affected; or (2) the suddenness and fatality that may mark an outbreak of milk-scarlatina, 10 deaths out of 23 cases; or (3) the manner in which infection may be carried, as by the hands of the milker, or even, during the distribution of the milk, by visiting an infected house; (4) the epidemic due to use of cream is also remarkable.

I have collected notes of eighteen epidemics since those recorded by Mr. Hart, in three of which I can get no record whether or not the specific contagium of scarlatina was likely to gain access to the milk; in seven the disease existed at the dairy or farm whence the milk came; in three instances no specific connection with scarlet fever could be made out after most careful enquiry, but there seemed to be a causal connection between a disease of the teats or udders of the cow and the incidence of the scarlatina upon milk consumers; in one other instance there was a doubtful possibility of such a connection; in one instance a possibly scarlatinal sore throat at the dairy; in two instances nothing could be made out, except that in each case a cow had calved recently; and in one instance a particular brand of condensed milk was considered to be the cause of the outbreak.

This question of the possibility of the communication of the disease from cow to man—*i.e.*, of the existence of bovine scarlatina, is a most important one, and the literature of the subject has become very extensive during the last two or three years. It is difficult to summarise the observations and conclusions of the various investigators, and especially so since so much warmth has been thrown into the discussion. I will try to indicate briefly the principal points in the controversy so far as it has proceeded at present.

1. *The Russell Square Outbreak of* 1882.[1]—In January, 1882, occurred an outbreak of scarlatina in the Russell-square district, which was found to be connected with the milk supply from a particular dairy. One of the milk carriers and his children had sore throat and scarlet fever; but it was then found that some persons were supplied with this milk from the cart *en route* between Charing-cross Railway Station and the dairy, and, therefore, before the milk came near this affected milk carrier, and that amongst these persons also scarlatina broke out. Further, thirty-nine cases of the disease occurred at Camberwell, quite removed from the dairy and its area of supply, of whom thirty-two drank the milk derived from the same farm at Farnham; also the railway officials at Charing-cross had thirteen cases of scarlet fever and sore throat, at about the same time, amongst purchasers of this milk. Mr. Power then investigated the circumstances of the dairy farm. There was no scarlet fever—no insanitary condition. A cow had calved at the beginning of January, but had not been in any way ill. On 11th February Mr. Power found she had lost portions of her coat.

2. *Marylebone Outbreak*, 1885. *The Hendon Cow Disease.*[2] In November and December, 1885, an epidemic broke out

EPIDEMICS OF MILK-SCARLATINA.

No.	Date.	Place.	Reporter and Reference	No. of Cases	No. of Deaths.	No. of cases among drinkers of suspected milk.	Per cent.	Circumstances of Outbreaks.
1	1882 Jan.	Bloomsbury	Mr. W. H. Power, L.G.B. Supp. for 1882	..	..	.	..	Outbreak apparently dependent on some condition affecting cows at dairy farm.
2	1882 Jan.	Greenock	Dr. Wallace, *B.M.J.*, Mar. 25, 1882	20	..	20	100	Scarlet fever at farm.
3	1882 Oct.	Greenock	Dr. Wallace, *B.M.J.*, Dec. 30, 1882	47	..	12	25	Scarlet fever at milk dealer's.
4	1883 April.	Wolborough	*B.M.J.*, April 21, 1883	..	..	..	..	Scarlet fever at milk dealer's. Of sixteen families attacked, nine were supplied with suspected milk.
5	1883	Dundee	*B.M.J.*, Oct. 27, 1883	17	4	17	100	Scarlet fever at dairy.
6	1884 Aug.	Dundee	*B.M.J.*, Aug. 30, 1884	..	..	..	..	Scarlet fever at dairy.
7	1884 Oct.	Greenock	*B.M.J.*, Nov. 8, 1884	..	..	..	..	
8	1885 Nov., Dec.	Marylebone and St. Pancras	Mr. W. H. Power, L.G.B. Supp. for 1885	..	..	..	..	Outbreak apparently due to a disease affecting certain cows—the "Hendon disease."
9	1886	St. George's, Hanover Sq.	Dr. Corfield, *B.M.J.*, Sep. 22, 1888	..	..	..	..	A small group of cases: the only circumstance common to all the cases was that they used condensed milk of a particular brand. In this organisms were found by Dr. Klein, supposed to be characteristic.
10	1886-7 Dec., Jan.	Wimbledon and Merton	Mr. W. H. Power, L.G.B. Supp. for 1886 also *B.M.J.*, Jan. 12, '88 and C. H. Cooper, *San. Rec.*, Mar., 1889	635	4	577	91	Sudden outbreak, reaching at its height 119 fresh cases in one day. Besides 577 cases supplied with the suspected milk No. 1, there occurred 29 cases among consumers of milk No. 2, two of the cows supplying which had formerly been with the cows supplying No. 1. ? Udder disease.
11	1887 April	Toxteth Park, Liverpool	Dr. G. W. Stevens, *B.M.J.*, Oct. 20, 1888	..	..	..	..	Outbreak supposed to be connected with milk from a particular dairy. No scarlet fever there, but a cow had recently calved. Some diphtheria also present.
12	1887	Dundee	Dr. Anderson, *B.M.J.*, Aug. 27, 1887	..	..	..	..	Scarlet fever at dairy farm.
13	1888 Jan., Feb.	Jesmond, Newcastle	Dr. H. Armstrong, *Pub. Hea.*, May, Oct., '88	19	..	17	..	Scarlet fever at dairy farm three or four months previously. One or two cows slightly denuded of hair.
14	1888 Mar.	Garnethill, Glasgow	Dr. Russell. *B.M.J.*, Oct. 27, 1888	95	..	95	100	Many other cases of scarlatina and sore throat among other families supplied by same dairy, outside this local epidemic. Three deaths in all.
15	1888 June.	Pollokshiels, Glasgow	Dr. Carmichael, *B.M.J.*, July 7, 1888	70	..	..	..	Scarlet fever at dairy farm.
16	1888 Aug.	Newcastle	Dr. H. Armstrong, *Pub. Hea.*, Sept., 1888	74	..	61	67	Throat illness in family of one of the dairy helpers. Five out of 24 cases of diphtheria among drinkers of same milk.
17	1888 Oct.	Garnethill (Pk.), Glasgow	Dr. Russell, *Pub. Hea.*, Feb., 1889	56	..	..	..	Scarlet fever and sore throat at dairy. In one district, out of 600 households, of 92 supplied by this dairy, fourteen were infected. Of 502 otherwise supplied, only two were infected.
18	1888 Dec.	Govan	*San. Rec.*, Feb., 1889	37	..	35	94	Of 74 families supplied with suspected milk, 23 attacked with 35 cases. Only two cases amongst 603 families otherwise supplied. Origin unknown.

[1] L.G.B. Report. Supp. for 1882. App. A 9.
[2] L.G.B. Report. Supp. for 1885. App. A 8.

in Marylebone, also in St. Pancras and at Hampstead and Hendon, which was investigated by Mr. Power, and the conclusion was come to by him that this outbreak was due to infection from the milk from a particular dairy at Hendon. He could discover no scarlet fever either at, or in the neighbourhood of the dairy. He examined the cows at the dairy, and found some of them to be suffering from an ulcerative disease of the teats and udders. Various circumstances connected with the time of arrival at the dairy farm of certain cows, the distribution of their milk, and the outbreak and incidence of the disease, led him to the belief that these cows, through some condition or other, were the cause of the epidemic.

Dr. Klein then continued the investigation for the Local Government Board, and made bacteriological experiments, both with these cows and with blood from scarlet fever patients. He was able to isolate a streptococcus from the ulcers on the teats of the cow, and in five out of eleven human patients he found what he believed to be the same organism in the blood. This organism was not present during the first four days, but appeared on the fourth and subsequent days. He performed experiments on animals with the organisms derived from these two sources, and obtained what he believed to be identical results and symptoms. The *post-mortem* appearances in the cow suffering from the Hendon disease, and in the animals inoculated with the streptococcus, were, he considered, similar to those found after scarlet fever. In short, the micro-organisms, the symptoms, and the *post-mortem* appearances, seemed to correspond.

Subsequently Dr. Klein found[1] that inoculation of this streptococcus produced ulcers on the teats in cows that had recently calved. He also found a similar micrococcus in a particular brand of condensed milk, which had been suspected of causing scarlet fever; also in the blood of a monkey that had died of the disease. Dr. Klein, therefore, named this organism *Micrococcus scarlatinæ*, considering that the disease was produced by its agency both in man and in cows, and that milk from cows so affected would produce the disease in man. This is the end of the first stage in the enquiry.

The Edinburgh Researches.—Dr. Jamieson and Dr. Edington made investigations[2] shortly after the publication of Dr. Klein's report. Various organisms were found in the blood of scarlet fever patients, their nature varying with the time at which they were taken. Dr. Edington considered those found during the first three days, which were bacilli, to be the cause. These disappeared from the blood after the third day, and reappeared again in the scales at the desquamating stage. When these disappeared from the blood others were found, amongst them one called by Edington *Streptococcus rubiginosus*, similar to Klein's micrococcus. Edington experimented on animals with this, and obtained appearances like scarlet fever.

The Medico-Chirurgical Society of Edinburgh made a preliminary report[3] on this research, to the effect that they consider Edington's and Klein's streptococci to be very similar, if not identical, but that there is no definite conclusion to be come to about the bacilli.

Dr. Thin's Criticism.—At the Dublin meeting of the British Medical Association in August, 1887, Dr. Thin criticised[4] what had been done so far. He found that at the same time that the Hendon cows were affected, other herds were also attacked by the same disease, the infection having originally started in a herd in Derbyshire; but no outbreak of scarlet fever had occurred among the consumers of the milk supplied from these other dairy farms. Further, the milkers at some of these dairy farms had no scarlatinal symptoms, *but* they had pimples and sores on their hands. Dr. Thin considered this Hendon disease to be *cow-pox*, and that the scarlet fever outbreak was possibly to be traced to a laundry in the neighbourhood, where some of the milkers resided.

Professor Crookshank.—Then the Agricultural Department of the Privy Council deputed Professor Crookshank to investigate the matter, and in December, 1887, he published his observations at a meeting of the Pathological Society.[1] After some delay and difficulty he succeeded in meeting with cases of cow disease in Wiltshire, which he believed to be identical with the Hendon disease, and he isolated a streptococcus. No scarlet fever occurred amongst the consumers of milk from this herd of cows, though it was extensively distributed. Dr. Crookshank believed the disease to be true Jennerian cow-pox. The milkers were affected with cow-pox eruption.

Dr. Klein, in his reply, denied the identity of this disease with the Hendon disease on the ground that the eruption was not the same, that the streptococcus did not grow in the same way, and that the milkers were not affected at Hendon with any eruption, as they were in Dr. Thin's and Dr. Crookshank's cases.

At the January (1888) meeting of the Pathological Society, Crookshank brought forward the results of further investigations.[2] He summarised his conclusions thus:—

1. The nature of the contagium of scarlet fever is unknown.

2. The micro-organism regarded by Dr. Klein as the contagium is the *Streptococcus pyogenes*.

3. This is found, sometimes in company with *Staphylococcus pyogenes aureus*, as a secondary result in scarlet fever, and in many other diseases.

4. Its exact relation to scarlet fever, and its identity with the streptococcus from pus and puerperal fever, was definitely established in 1885 by Fränkel and Freudenberg.

5. Both Wiltshire and Hendon cow diseases were called cow-pox by the people on the farms.

6. They correspond in clinical history.

7. The ulcers on teats correspond to the naked eye and in microscopic appearances, and the latter vividly recall the appearances of cow-pox.

8. Calves inoculated from the ulcers are similarly affected.

9. *Post-mortem* examination of such calves, and of calves inoculated from scarlet fever cases, show similar appearances.

10. These *post-mortem* appearances in calves are the result of septicæmia.

11. There are no specific visceral changes in cow-pox apart from complications or coincident affections.

Dr. Klein replied,[3] maintaining that the organism he had described as *M. scarlatinæ* was not the same as *S. pyogenes*, and that the Hendon cow disease was not the same as the Wilts. and the Edinburgh disease, one clinical difference being that at Hendon the ulcers only commenced on the fourth, while in Wilts. they were at their height on

[1] *British Medical Journal*, January 21st, 1888.
[2] *British Medical Journal*, 1887, i. 1262.
[3] *British Medical Journal*, 1887, ii. 830.
[4] *British Medical Journal*, 1887, ii. 402-473.

[1] *British Medical Journal*, 1887. ii. 1317-1382.
[2] *British Medical Journal*, 1888, i., 122-135.
[3] *British Medical Journal*, 1888, i., 135.

the fifth day. In the Edinburgh cows the ulcerations occurred still later; therefore there were probably three diseases, not one.

A discussion followed, in which it was admitted that the subject was still in great confusion.

The subject was considered at the August meeting of the British Medical Association in Glasgow, 1888, but nothing of importance was elicited.

Professor Brown's Report to the Privy Council.—Towards the end of 1888 Professor Brown, of the Royal Veterinary College, presented a report[1] embodying Crookshank's researches and other investigations by veterinary surgeons and inspectors. An important point in this report is the statement by Professor Axe that there were cases of scarlet fever existing in Hendon, and that there was thus the possibility of human infection being conveyed to the dairy at the time of the Marylebone outbreak. Mr. Axe also states that an outbreak of udder disease amongst cows at Hendon occurred in 1887, precisely similar to the former one, but not accompanied by any scarlet fever amongst the consumers of the milk. In addition, he gives the history of four other batches of cows, all derived from the original Derbyshire herd, each suffering from a disease indistinguishable from the Hendon disease, but unaccompanied by any outbreak of fever amongst milk consumers. The general tone of Professor Brown's report is very adverse to that of the Medical Officers of the Local Government Board.

It will be admitted that the nature of the "Hendon disease" is now involved in the greatest confusion; but it must also be remembered that the observations made on the spot, and at the time, were those of Mr. Power, and that the conclusions come to by him are, therefore, worthy of the highest consideration.

3. *The Outbreak at Garnet Hill, Glasgow.*[2]—Dr. J. B. Russell presented a report in June, 1888, on this outbreak, of a most interesting and important character. During the last week in March a house-to-house visitation of the district was made; 1473 families were visited, among whom were 96 cases of scarlet fever and sore throat. The sore throat was specific, for it dovetailed in families with scarlet fever, the elders having sore throat, and the younger ones fever. The milk supply was enquired into: 172 families were supplied by dairy X, yielding 95 cases; 1301 families were supplied from other sources, yielding only one case. Outside this local area, the customers of dairy X at West End, Hillhead, and Kelvinside furnished many more cases of scarlet fever. In all, there were 189 cases—101 of fever, 88 of sore throat. Both diseases moved together, the earliest case of each being on March 15th, and the last being on April 1st and 2nd respectively. From March 20th to 25th, 74 persons sickened with scarlatina, 62 with sore throat. The cases after March 25th were mostly by secondary infection in the ordinary way. Mortality was very low, only one death being recorded.

Thus the milk from dairy X was the medium for spreading the disease. Whence did this milk derive its infectivity?

The milk came from three sources—A, B, and C. At the farms B and C everybody was in perfect health. At A there was a case of scarlet fever on the 23rd, and of sore throat on the 24th; at the dairy in Glasgow a case of each illness on the 22nd, and another case of fever on the 23rd; also two cases of slight sore throat among the distributing boys on the 26th and 29th March.

As none of these cases could have originated the epidemic, which began on 15th March, they must be regarded, as other cases, infected from the same source. The producers and distributors, being also consumers, themselves suffered.

The milk X not being infected through a human medium, the question arises: "Was it through a cow?" The stock at B and C were perfectly healthy. At A, on March 27th, Dr. Russell found in two cows appearances resembling those in the Hendon cows. The only recent additions to this stock had been one cow purchased on February 21st, and three on March 7th. One of the latter was thin and mangy-looking, *casting hair and shedding scarf skin;* the teats had several sores covered with bloody scabs. Of the other two cows bought at the some time one was sound, the other had one small scab on one teat. The cow bought in February had scabs also. Two of these cattle were removed to the Veterinary College, and observations were made there. It was recorded that a calf fed on the infectious milk was almost at once seized with a highly febrile illness which nearly killed it; and in recovering it lost hair and shed scarf skin copiously—*i.e.*, desquamation took place.

Now if we consider what are the various possible modes in which infection of the milk may occur, we have, I think, the same or similar four categories, as in the case of enteric fever—viz., (1) addition of water, to which the specific poison may have gained access; (2) contamination from the contagium floating about in the air, and falling into exposed surfaces of milk; (3) communication of the contagium, by personal contact with the milk, of individuals suffering from the disease, or convalescent from it, or in attendance on such cases; (4) some disease of the cow that is able to produce scarlatina in man. The second and third of these are probably the usual ways in which infection takes place, and considering the very mild character of some scarlatina cases (in which possibly a medical man is never called in), with slight fever, not much feeling of illness, and no very obvious rash, but still marked desquamation, and undoubted capability of transmitting infection, there will always be a considerable element of danger from this source. The fourth mode, from the cow herself, can hardly yet be said to be proved, although certainly Mr. Power's report on the Hendon cases does read almost as a demonstration; and Dr. Buchanan[1] says: "In the end he (Mr. Power) has demonstrated beyond reasonable doubt the dependence of the milk-scarlatina of December on a diseased condition of certain milch cows at the farm."[2]

Further investigations are required, and will no doubt be undertaken as opportunity offers. The communicability of the disease-poison from the cow is certainly possible—there is nothing impossible in it—though not proven.

[1] "Report on Eruptive Diseases of the Teats and Udders of Cows in relation to Scarlet Fever in Man." By Professor Brown. 1888.

[2] *Sanitary Record*, June, 1888.

[1] Report for 1885, p. vi.

[2] Since the above was written a review of Professor Brown's report has appeared in the *Practitioner* for March, 1889, evidently written by "one who knows." In this it is pointed out that the scarlet fever, referred to by Professor Axe as existing at Hendon, had been noted and reported on by Dr. Cameron, in his report for 1885, as "two mild cases—both carefully isolated, and disinfectants supplied. As the district is full of laundries, it is possible that the disease was introduced from London; there was no other evident source for it. The fever did not spread beyond these houses." Mr. Axe quoted this, but omitted to say that it was a quotation, made no reference to Dr. Cameron, and left out the last sentence. Professor Brown's deduction must therefore be received with caution.

The question is one of the greatest interest to all practitioners, and is stated by Mr. Power in these weighty words:[1]—"Few physicians will be disposed to deny a relation between scarlatina and certain forms of febrile puerperal disease in women. The contagion of scarlatina introduced into the lying-in room has often and with reason been held responsible for "puerperal fever." . . . . Now if it be true that there is one sort of relation between scarlatina and accidents of the puerperal state, another sort of relation becomes comparatively easy of belief; while there would be nothing improbable in the further suggestion that all such relations would be qualified by the passage of a common contagion through the system of another animal. . . . . If scarlatina in man have other animal source than human source, it may be that one such source is the cow that has recently calved, a cow either not at all ill (except for her parturition), or not so obviously ill as to prevent her milk being used for human consumption." And Mr. Power mentions three important facts:—(1) In epidemic outbreaks referred to milk as their cause, infectivity of the milk has commonly lasted a short while only—a week or ten days, according with some cow condition as well as any other suggested cause. (2) Such outbreaks have generally had relation to cow businesses that have had to do with the production of milk, and milk alone—not butter, nor cheese, nor calf-rearing—therefore the cows come into business use almost at once after calving. (3) Milk-scarlatina outbreaks have generally been characterized by mildness and small mortality. This is not inconsistent with an animal origin, not recently a human origin, of the infective poison, as in vaccinia.[2]

III.—DIPHTHERIA.

Of the seven outbreaks of diphtheria, particulars of which are related by Mr. Hart, the most extensive was one occurring in Kilburn and St. John's Wood in 1878, consisting of 264 cases in 118 households, with 38 deaths. The great majority of these households were supplied from one dairy, the incidence of the disease upon the customers of this dairy being twelve times as great as on the customers of other dairies. Most of the families were of the better class; no insanitary condition was common to the houses; no explanation could be given.

In another epidemic, at Weybridge, sixty persons were attacked during nine days, all supplied from one dairy; no insanitary condition common; no explanation. I have found other (seven) epidemics recorded since 1881, the best known of which have been those at Devonport, Hendon, Canterbury, Camberley, and Ealing. The connection between the spread of the disease and the milk supply seems established in all but one of these outbreaks (the exception being the outbreak at Putney in 1883, in which Dr. Blaxall discredited the milk theory), but the definite manner in which the milk became infective has not been ascertained. In the Hendon instance the milk cans were washed in a brook contaminated with sewage; a similar state of things prevailed in the Cardiff instance; and in two of Mr. Hart's cases (Weybridge and Addlestone) the water supply of the dairy farm was very impure. In two instances of Mr. Harts' (Kilburn and Addlestone), the disease of the teats called "garget" was considered to be possibly connected with the epidemic. In the Canterbury case, though the cows appeared healthy, four calves had diarrhœa; at Camberley Mr. Power found that one cow had chapped teats not unlike those of the Hendon cow disease. But from a consideration of these fourteen epidemics, it is not possible at present to say what is the manner in which the milk becomes infective, though that the milk was the infective agent in these cases, is in the highest degree probable.

It is to be noted that in most instances it was found that the better class houses suffered far more than the poorer class. Mr. Power suggests[1] that this is owing to the larger quantity of milk consumed, and to the practice of taking in a larger quantity at a time and keeping it for some hours—or "setting it" for cream—while the poor only take a little, and use it at once. In the Hendon outbreak the milk was found to be ropy, and was either returned or thrown away by some of the customers in consequence.

IV.—TUBERCULOSIS.

It cannot be said that the transmission of tuberculosis from cow to man by means of milk has been actually proved, as I think can be stated with regard to the three diseases we have just been considering. But in the nature of the case there cannot be any sudden or widespread outbreak which would draw attention to the connection between this disease and the milk supply, as happens in the case of those other diseases. There is, however, a large body of evidence tending to show that this transmission is possible, and considering the enormous prevalence of tubercular disease in this country, the importance of dealing with this question can hardly be overrated.

1. It may be regarded as proven that *tuberculosis can be transmitted* from the cow to other animals *through the milk*. Dr. Francis Imlach[2] made some experiments in 1883, by feeding healthy calves, pigs, guinea pigs, monkeys, and a goat with milk from tuberculous cows, but found no signs of the transmission of the disease, except in the case of the monkeys; and this could not be considered of much importance, as they are known to be exceedingly liable to it in this country. Other observers have, however, proved the transmission beyond a doubt, especially Gerlach and Professor Bang of Copenhagen. But it appears to be the opinion generally, as far as I can gather, that it is only the milk of cows suffering from tuberculous disease of the udders that is especially likely to give infection, and that unless this local manifestation of the disease exists, tubercle bacilli are not found in the milk, and infection is not transmitted. This was the opinion stated by Principal Walley at a meeting of the Edinburgh Medico-Chirurgical Society last year,[3] and appears to have been the general opinion at the meeeting of the British Medical Association last August (1888).

2. It is now admitted that *tuberculosis is exceedingly prevalent amongst cows*. The cows that are most affected are the stall-fed dairy cows in towns. Professor Fleming states[4] that 25 per cent. of such cows are affected; some

[1] Report for 1882. App. A. 9, pp. 66-67.

[2] In the report of the Medical Officer to the Local Gov. Board for 1887, dated August, 1888, but only just published (April, 1889), Dr. Klein gives the result of further researches, and, it must be allowed, strengthens his case, of the identity of the Hendon disease and human scarlatina as shown by their both being due to the same organism, considerably. He infected cows and calves with a streptococcus from human scarlatina; ulcers on the teats and desquamation of skin resulted. In some cases the same streptococcus was recovered from the blood and organs of these animals. He states positively, after long study of streptococci, that this organism is not what is generally known as S. pyogenes.

[1] L.G.B. Supp. for 1887.

[2] *British Medical Journal*, 1884, ii., 175.

[3] *British Medical Journal*, 1888, i., 419.

[4] Quoted by Dr. L. Parkes, *British Medical Journal*, 1888, i., 847.

have stated even 50 per cent. At the Congress on Tuberculosis at Paris last year, it was stated that four out of every 100 cows were tuberculous.[1] Dr. Sims Woodhead[2] made a most careful inspection of over 600 cows in the Edinburgh dairies, with the veterinary Professor Macfadyean, and found thirty-seven beasts suffering from mammitis, but in only six of these could they demonstrate the presence of small numbers of tubercle bacilli in the milk, though these bacilli existed in enormous numbers in the udders. Granting that only milk from cows with tuberculous disease of the udder is infectious, 1 per cent. of dairy cows would be liable to transmit the disease. This, of course, is a very different thing from 25 or 50 per cent. It is no matter for wonder that dairy cows should be particularly susceptible to this disease, especially in town dairies. These places are often uncleanly, and nearly always ill-ventilated; the animal has no exercise, and is being drained of a large quantity of milk for a prolonged time. This prolonged lactation is known to predispose to phthisis in the human female. Even if only 1 per cent. of dairy cows are affected, as the milk of various cows is generally mixed, the tuberculous milk would be widely diffused. The presence of the disease does not lead at once to ill-health in the cow, loss of flesh, or diminution of the supply of milk. On the contrary, this latter is stated to be often increased; so that the disease may have existed for some time unsuspected.

3. The question of the *identity of bovine and human tuberculosis* has been answered in the negative by Klein, and in the affirmative by Koch, Bland Sutton, Watson Cheyne, Sims Woodhead, and others. Klein considers[3] that "the tubercular virus derived from the human subject is not exactly the same as that derived from the tubercles of the cow, because (*a*) the tubercle bacilli present in the human tubercles are morphologically different from those of the cow's tubercles; and (*b*) because, although the guinea-pig is susceptible in a similar degree to both the human and bovine virus, there is nevertheless a marked contrast between the two as regards the rabbit," which is not infected by human virus, but is very susceptible to that from the cow. So Dr. Klein wrote in 1883; and further experiments in 1885, which showed that fowls were susceptible to human, but not to bovine tubercular matter (*i.e.*, the opposite of rabbits), confirmed him in this belief.[4] In 1886, however, further experiments on fowls had a different result.[5] But the numerous observers just mentioned consider the two diseases identical, and this was considered as established by M. Chauveau,[6] the president of the Congress on Tuberculosis at Paris last year, and by several speakers at the British Medical Association at Glasgow, and may be taken to be the general opinion on the subject.

4. We have, then, these three propositions: I.—Tuberculosis can be transmitted from the cow to other animals through milk. II.—Tuberculosis is very prevalent amongst cows. III.—Tuberculosis in cows is the same disease as in the human species. We then come to IV.—Tuberculosis can *probably* be transmitted from the cow to man.

Professor Walley stated[7] at Glasgow that he had himself lost a child from mesenteric tuberculosis, under such conditions as to point to milk as the source of infection; and that within the past few years one of the officials of the Veterinary Department of the Privy Council had lost a child also in a similar manner; and, doubtless, several similar instances could be related.

In a paper on this subject in the *British Medical Journal* of April 21st, 1888, Dr. L. Parkes quotes the Registrar General's statistics to show that the mortality from tubercular peritonitis and tabes mesenterica, for the ten years from 1871 to 1880, in children under five years, was on an average 2.55 per 1,000 per annum—about the same as for measles (2.57), and more than twelve times as great as the corresponding mortality from these diseases at any other age-period of five years, from five to 100. "The extreme incidence of primary tubercular disease of the abdominal lymphatic system on young children is at once seen from these figures. In the matter of dietary, there is one great distinguishing feature between this age-period and all others. Under five years of age, milk—usually unboiled—forms the staple food of children."

EPIDEMICS OF MILK-DIPHTHERIA.

No.	Date.	Place.	Reporter and Reference	No. of Cases.	No. of Deaths.	No. of cases among drinkers of suspected milk.	Per cent.	Circumstances of Outbreaks.
1	1882 Dec.	Devonport	Dr. Parsons, L.G.B. Supp. for 1883	29	4	27	93	Origin unknown. Twenty out of the 29 cases were of adult age.
2	1883 Jan.	Hendon	Mr. Power, L.G.B. Supp. for 1883	62	..	?34	?55	Dairy utensils washed in brook contaminated by sewage. "Ropiness" of milk observed.
3	1883 April	Putney	Dr. Walker & Dr. Blaxall, *San.Rec.*, 1882-3, 515, 560 L.G.B. Supp. for 1883	17	5	17	100	Out of 400 families supplied with suspected milk, nine were attacked Diphtheria had prevailed in the district previously. Dr. Blaxa doubts whether milk was the cause.
4	1883	Cardiff	Dr. Paine, *B.M.J.*, 1883, i., 973	..	..	..	..	Polluted well at dairy.
5	1886 July	Canterbury	Dr. Wacher, *B.M.J.*, 1886, ii., 397	231	0	..	..	231 cases of local throat inflammation, with white patches on tonsils, and enlarged cervical glands, occurring within eight days. Out of 120 houses in which cases occurred, 94 were supplied with one milk.
6	1886 Oct.	Camberley and Yorktown	Mr. Power, L.G.B. Supp. for 1886	135	16	124	92	Incidence of the outbreak much more on better-class houses than on the poor, larger quantities of milk being taken, and stored before use.
7	1887 Jan.	Ealing	Mr. W. H. Power, L.G.B. Supp. for 1887, *B.M.J.*, 1887, i., 292, 342, and ii., 156	30	12	28	93	Sudden small outbreak of diphtheria during seven days, affecting solely customers of particular dairy. Before this, and subsequently, many cases of "sore throat" mainly affecting families supplied from this dairy. Connection "not proved."

V.—OTHER DISEASES.

1. *Throat Illness* in connection with *Foot-and-Mouth Disease*.—In 1884, at Dover,[8] there suddenly broke out an

[1] *Public Health*, September, 1888, p. 149.
[2] *Public Health*, September, 1888, p. 134.
[3] L.G.B. Supp. for 1883, p. 185.
[4] L.G.B. Report, Supp. for 1885. [5] L.G.B. Report, Supp. for 1886.
[6] *Public Health*, October, 1888, p. 180.
[7] *British Medical Journal*, 1888, ii., 411.
[8] *British Medical Journal*, 1884, vol. i., 627. See also a paper by Mr. Francis Vacher, in the *Sanitary Record* for September, 1881, p. 89, in which he relates three cases of this disease transmitted by milk, and refers to records in the *Veterinarian* for 1841, and the *Veterinary Review*, iv., 502, and v., 187.

epidemic of sore throat, with shivering, headache, some fever, with vesicular eruption of the throat or lips, enlarged tonsils (afterwards suppurating in some instances), and in most cases with enlargement of the glands of the neck. These symptoms resembled the aphthous fever of cattle, or foot-and-mouth disease. There were 205 cases in the week ending February 9th, all but eight above seventeen years old, all supplied with milk from one dairy, but living in different parts of the town, and with no other common condition but that of milk supply. It was ascertained that foot-and-mouth disease existed at one of the farms from which this dairy derived its milk.

In March of the same year, 1884, at East Dereham,[1] were many cases of throat illness among children, with some deaths, apparently due to milk from cows suffering from the same disease.

Mr. Hart relates[2] the case of the Aberdeen epidemic of 1881, where 300 persons were attacked with illness, the symptoms being rigors, fever, slight enlargement of tonsils, but no false membrane, and a marked feature in the illness being enlargement of the lymphatic glands of the neck, and those above the clavicle. The febrile symptoms passed off in a few days, but there were often relapses. The dairy, whence the milk supply of all the cases was derived, was attached to a Reformatory School, the boys of which got skim milk, and entirely escaped. The officials got sweet milk, but only a few were affected. With the stoppage of the milk supply, the disease ceased. The water supply of the dairy was bad. No explanation was given of the outbreak. The symptoms seem to have resembled those in the Dover outbreak, attributed to *eczema epizoötica*, or foot-and-mouth disease.

An outbreak of sore throat occurred in an institution in Edinburgh in 1888, on which Dr. Sims Woodhead and Mr. Cotterill read a paper before the Edinburgh Medico-Chirurgical Society in June (see *British Medical Journal*, June 9th, 1888). The milk supply was suspected; it was stopped, and the epidemic ceased. The milk was again taken into use, and the epidemic re-commenced. Lastly, the milk was boiled, and no further cases occurred. Dr. Woodhead found various organisms to be present in the milk. Many of the cows showed signs of cow-pox.

2. *Gastro-enteritis.*—At the Societé de Medicine Publique in Paris, in November, 1885, M. Toussaint[3] brought forward facts from the death-register returns, showing that deaths from gastro-enteritis, and from intestinal affections, were more common among bottle-fed children in the district of Argenteuil, since a large distillery had been established there, the cows being fed on brewers' grains, and the milk being acid.

3. *Poisoning.*—Surgeon R. H. Firth relates[4] an instance of poisoning among troops at Mean Meer in August, 1886, the cause of which was traced to the drinking of some milk that had apparently been kept in a dirty pan. The symptoms were "nausea, vomiting, dryness and intense constriction of the fauces, vertigo, colic, purging, and in some a tendency to collapse: in others, numbness of the extremities, and a tendency to stupor." Under simple treatment all the cases recovered. On treating some of the milk, after coagulation, with potash and ether, and evaporating, a moist semi-crystalline residue was left, with a sickly odour, which on application to the tongue caused sharp pungent taste, nausea, dryness of the throat, and headache. Mr. Firth subsequently obtained the same, or a similar body, from good milk that had been kept for a long time. He considered it a ptomaine, and named it *lactotoxine*.

Professor Victor Vaughan, of Michigan, relates[5] some cases of poisoning from eating "sick" cheese, the symptoms being dryness of the throat, nausea, vomiting, diarrhœa, nervous prostration, headache, and sometimes double vision; the symptoms, in fact, of a gastro-intestinal irritant, with marked effects upon the nervous system. Recovery generally follows, though death has occurred in rare cases. After much trouble, he succeeded in isolating the poisonous principle by rendering the aqueous extract of the cheese alkaline with potash, and then extracting with ether. Needle-shaped crystals were formed, which, placed on the tongue, gave a burning sensation, followed by dryness and constriction of the throat, and nausea, the taste very sickening. He named the poison tyrotoxicon, and considered that it belonged to the class of ptomaines. He found also that it developed in milk after long standing in closed vessels. He found that from cheese containing this poisonous matter, when freshly cut, there always exuded drops of a watery opalescent fluid, which reddened blue litmus paper instantly and intensely. He considers that any cheese giving this instantaneous and intense reaction is suspicious. The symptoms of poisoning, and character of the poison in these two cases, appear almost identical.

Cases of poisoning from ice cream, sold in the street, have frequently been recorded, but, as far as I know, the actual toxic agent has not been discovered. Cases of poisoning from the milk of cows afflicted with the "trembles," supposed to be produced by their feeding on *Rhus toxico-dendron*, have been recorded from the Western States of America. In this "milk-sickness" in children there is weakness, vomiting, fall in temperature, dry and swollen tongue, and constipation. Boiling removes the poisonous properties. At Malta, diarrhœa has resulted from drinking the milk of goats that have fed on Euphorbiaceous plants.

4. *Cholera.*—Dr. Simpson, Health Officer for Calcutta, in his report for the first quarter of 1887, related[6] the particulars of a slight outbreak of cholera and choleraic diarrhœa on board the ship *Ardenclutha*, lying off Calcutta, resulting in nine cases and four deaths, in which the poison seemed undoubtedly to have been conveyed through milk. Of the crew of this ship, those who drank milk brought by a particular native milkman, all (with one doubtful exception) suffered; and no one who did not drink the milk was attacked (with one doubtful exception). The milkman was traced, and was found to live near a tank into which dejecta from a cholera patient found access; and he confessed to habitually diluting his milk with one quarter water from this tank. All other likely causes were enquired into and found negative, before this apparently clear causative connection was discovered.

CONCLUSION.

The practical question that we have to answer, from a consideration of these dangers in our milk supply is, How can they best be prevented or minimised? The measures necessary or advisable may be conveniently considered under the two heads of (1) those applicable to the milk

[1] *British Medical Journal*, 1884, vol. i., 575. [2] *Loc. cit.*
[3] *British Medical Journal*, 1885, vol. ii., 992.
[4] *Practitioner*, 1887, xxxix., 75.
[5] *Practitioner*, 1886, xxxvii., 232.
[6] *Practitioner*, xxxix. (1887) 144.

before it reaches the house of the consumer, including the inspection and management of dairies, dairy farms and milkshops, which is a matter of Public Health; and (2) the best thing to be done by the consumer in his own home, to make sure that neither he nor his family shall run the risk of "catching" anything through the milk supply.

1. It was mentioned at the beginning of this paper, in regard to typhoid fever spread by milk, that the infection might occur conceivably in four ways:—(*a*) By addition of water to the milk containing the specific contagium; (*b*) by the specific contagium gaining access from the air to exposed surfaces of milk; (*c*) by communication to the milk of the contagium from a person engaged in the distribution of milk, either ill himself, or in attendance on someone ill with the disease; (*d*) possibly there may be disease of the cow that can be transmitted to the human subject through the milk. The spread of the other specific diseases mentioned may take place in like manner.

(*a*) By punishing adulteration with water, the first channel of infection can be in part closed to the intrusive germ; but only in part, as water used in washing cans *may* contaminate the milk. Careful inspection of the sanitary conditions of the dairy, and provision of a pure water supply are here indicated. As regards (*b*) and (*c*), we have the 9th Section of the Dairies, Milkshops, and Cowsheds Order of June 15th, 1885, which makes it an illegal act for any trader in milk, either himself or his subordinates, to have anything to do with its distribution "when suffering from a dangerous infectious disorder, or having recently been in contact with a person so suffering." The execution of this order is now vested in the sanitary authority, and when the new County Councils are fairly started, we may expect (as there is room for) a progressive improvement. But still there will always be the possibility of mild cases of scarlet fever, or diphtheria, or typhoid being unrecognised, or only recognised when the mischief has been done. (*d*) The careful inspection of dairy stock by skilled veterinarians will doubtless tend to prevent the fourth source of infection. This is especially important as regards tuberculosis, and most especially tuberculosis of the udder.

2. But even if everything is done that can be done, there will still be the possibility of infected milk reaching a household. In that case what should an ordinarily prudent man do, not one who is full of fads and crochets, and always on the look-out for fancied dangers, but the sensible man who keeps his water closets in good order, sees to the purity of his water supply, and tries to keep his house and its surroundings in a wholesome condition? Fortunately, the precaution to be taken is of the simplest possible character: it is merely to *boil all milk before use.* This does not mean placing a jug of milk in a saucepan full of water, and just bringing the latter to the boil for a moment or two; but it means that the milk itself should be brought up to 212° F. for four or five minutes. If this be done, we have every reason to believe that no specific contagium will retain its vitality, and the milk may be drunk with safety.

It must be admitted that even now we are not armed at all points to repel every possible attack of the supposed invading germ; we can boil our milk, but we cannot boil our *butter* or our *cream.* There is nothing in the making of butter that can be considered as doing away with the possibility of the presence of the specific contagium in it, supposing any to have existed in the milk; but I am unaware of any record of disease traceable to butter, or even of any allusion to the possibility of such an occurrence, though I have searched through a considerable bulk of literature bearing on the subject. For the present, we must be content to eat our butter in fear and trembling; and with regard to cream, if we indulge in the luxury, we must be content to take it "all risks included."

FOOD AND DRINK.

By E. Bonavia, M.D., etc.

(*Continued from p.* 338.)

Supposing, however, that the misery from drunkenness is what it is estimated to be, is that any good reason for endeavouring to stop the use of alcohol among a whole population? Probably a single year would show more broken heads and limbs, and misery from railway collisions, and other accidents than from the abuse of alcohol. Would that be a sufficient reason for endeavouring to stop all railway travelling? One might as well try to prohibit the use of fire, because now and again a conflagration occurs with great destruction of life and property. And yet probably on account of the very want of alcohol, total abstainers may be *unable* to see the absurdity of their arguments.

If I might venture to suggest a useful field for research for the philanthropy of any association, here I think is one. The deaths from fever in the North Western Province of India and Oudh in the sanitary report for 1883, are put down at 830,258, or 18.82 per 1,000 of population. Here is a sufficient amount of misery in one part of India, in one year, for an association to sympathise with. The vigour of the whole population appears to be lowered. A sufficiency of food and quinine is not enough in certain climates, and the people cannot withstand what are called malarious influences, originating from alternations of temperature, and the consequences of fever, such as enlarged spleen, anæmia, liver complications, etc. No amount of quinine or cinchona febrifuge is able to cope with this misery. I have a strong suspicion that this mortality from fevers and allied diseases is due to a restricted use of alcohol, and that a more extended use of this important drug, among villagers, would perceptibly decrease the mortality from this cause, by raising the standard of nervous endurance of the population. There might result a few more broken heads, such as occur in the "Holi" festival, but what would a few broken heads be in comparison with thousands upon thousands of deaths from fever, and consequent misery to innumerable families! I could not of course prove all I have stated. It would require a life time to do so, but it might be very instructive to find out whether among the castes, who use liquor habitually, such as *kaiths*, *kahars*, *chamars*, *dhobis*, *kunjurs*, *mehtars*, etc., deaths from so-called fever are less than among abstainers.

One might say that the use of alcohol is not prohibited among natives—not by law of course, but *certainly* by their purse. All the poor people say that they cannot afford to purchase any *sharâb*, either when they are well, or when they are sick. Who can tell how many linger and die after fever from weakness, just for the want of a few mouthfuls of stimulant every day. I am informed that in the Etawah district, for instance, villagers can only get liquor where there are licensed vendors. It is said that in no case, however, have they to go more than five miles from their homes for it! By no means is this a

short distance for a weak person to walk in a hot climate! Liquor of only one strength is sold at the Government "godown," at Rs.3 12s. per gallon. Then the vendors dilute it again. The retail dealers sell the diluted liquor at either sixteen, fourteen, or ten annas per ordinary quart bottle. It is said, by those who are in the habit of drinking, that one bottle at twelve annas would be enough to make two of them unfit for work. That a quarter of a bottle taken by a man, unaccustomed to it, would unfit him for work. And that one *chatank*, or two ounces, would only make a man, unaccustomed to it, *comfortable*. Natives have two terms for expressing the degrees of alcoholic effects—one is *nashà*, which means that the effect of it is so far felt as to make a person bright and loquacious, with a warming up of the skin. The other is *matwàla*, which means that the person lies down unfit for work and helpless. Out of Etawah, I am informed, there is not much drinking, except at the "Holi," and at weddings, etc., as not many are seen drunk. The truth I fancy is, that, supposing the average value of a labourer's day to be represented by two annas (the hire of a coolie for a day) there can be little left out of this threepence for purchasing liquor. He requires at least one anna to feed himself; the remaining anna is for feeding his wife and family, and for clothing them and himself, although their wardrobe is not very extensive. Of course, two annas would not suffice for them. The way they manage to make both ends meet is this: The main crop goes to pay the rent. They live on the balance of their fields, which is the cheapest, and therefore the least nourishing, kind of grain. The wife, in the time she can spare from grinding, cooking, and making "*ooplas*," helps to make a bit of clothing, and by exchanging some of their grain, they manage to get up a wardrobe. The children go out hunting for cow-droppings to supply fuel for the pot. The husband has often to build or repair his hut, attend to the field, etc. The reader can easily understand that out of the average earnings of the villager, absolutely *nothing* can remain for spending on liquor. A bottle of liquor, at twelve annas, contains twenty-four ounces, and therefore two ounces, which is said to be the minimum to make a man, unaccustomed to it, comfortable, would cost one anna—a daily sum which is out of the reach of the generality of the rural population. Of course, at weddings and the "Holi," "*coute que coute*," the villager borrows money and makes himself merry. Unless well-to-do, the people of a village have never a fund of energy in their system. They are never more than just barely nourished, and very rarely stimulated. They have not even the solace of *coffee* like the Turks. When, therefore, unhealthy times come, and fever and other ailments prevail, the villager easily falls a prey to sickness, and if he do not actually succomb, he often lingers with enlarged spleen, anæmia, and general debility. Total abstainers might say: If, as you surmise, the villagers want of bottom is the cause of fever, it is better that he should die of fever, than of a broken head, from drink. This, however, would not meet the question.

The Sanitary Report for 1883 further states that the mean ratio of deaths from the same causes for *previous* years is 26.22 per mille. How much the decrease in recent years is due to a more extended use of alcohol, I do not know. Probably some portion of it is due to better sanitation, although the rural districts, I dont think, have been much affected, by modern sanitation. That there is any connection between an annual high mortality from fever, and a low consumption of alcohol is only a surmise of mine, drawn from cases that came under my treatment; from their history, and from inquiries that I have made. But irrespective of fever, it can hardly admit of a doubt that the population of India is *generally* under-alcoholed. A proof of this can be obtained from the statistics collected by the Bengal Excise Commission. A review of their report appeared in the *Pioneer*, of June 9th, 1885, page 2. The report states that "in 1875-76, the out-turn of proof spirit was from 1,434,623 to 1,763,095 gallons; and in 1883-84, it was from 3,381,244 to 4,131,832 gallons." . . . "That under the influence of cheaper liquor, better wages, and more regular employment for the lower classes, drinking should increase is a matter of course." Notwithstanding this increase, the reviewer goes on to say, "but even the estimated consumption is not excessive. The highest estimate gives to each *professed drinker* less than a pint bottle of spirit in the month, and the lower estimate about a third less (!). And it has to be rembembered that the estimated number of drinkers is a low one, and that in India a large proportion of the consumption of liquor takes place on special occasions, when many people, who are not regular consumers, take their share. The consumption per head of the population is infinitesimally small, amounting, even according to the highest estimate, to only $\frac{1}{16}$th of a gallon in the year" (or 10 ounces per head of population per annum!) That is if all the spirits made were distributed equally among every member of the population, each would only get 10 ounces of spirits in the whole year. As little less than this can be drunk by each person at the "Holi" and weddings, there can be little doubt that during the rest of the year the generality of the population get *nothing*.

Recently in the Etawah district there was a sort of epidemic of quarrelling, and breaking of heads. I especially asked one of the deputy magistrates, whether alcohol had much to do with it. He said he lately had four cases running, in which alcohol had nothing whatever to do with the quarrelling.

Relation of Diet to Climate.—Now let us contrast the feeble villager of upper India, which in winter has a bracing climate, with the "*Masula*" boatman of Madras, a place, which is hot, even in winter. There is a wrong notion, which unhappily has crept into some scientific books, that people in the tropics eat little else but rice, because naturally it is the only diet which is good for them! The "*Masula*" boatmen of Madras are *perfect* types of strength, muscular development, and general good health. A few years ago I stood looking at them with astonishment. They were landing passengers and luggage at the pier. The muscles of their neck, their trunk, their arms and legs—all had a marvellous development—such as is not seen out of a circus, or a band of acrobats. I asked a native who spoke English, and knew them, what they ate. He replied plenty of mutton or beef, according to religion; plenty of rice and vegetables; and they drink plenty of "*arack*," which comes from Colombo. There are among them Mahomedans, Hindoos, and Christians. They live either in, or on the water. Here is a nut for anti-liquor, and anti-meat associations, and scientific men to crack. A set of men only thirteen degrees or so north of the Equator, living *habitually* on meat, vegetables, and alcohol, and doing *hard work*. This is evident from the fine development of all the muscles of their body. They are more like navvies, and are infinitely superior in vigor and whole build, to the Northern Indian, who is, as a rule, strictly a

vegetarian (milk excepted), and practically a total abstainer. I had not time to make further investigations, or I should have tried to discover whether the *Masula* boatmen are often ill. They certainly did not look like men who were subject to much illness. However, in order to make sure of what I said regarding the diet of these athletes, I wrote to a friend in Madras, an engineer, and a good mathematician, to make further enquiries about the mode of life of these wonderful men. Being a scientific man, his statement is likely to be perfectly reliable. He writes: "the *Masula* boatmen are about 400 in number, the most part being Hindoos, principally Chettias, and the remainder Roman Catholic Christians, with a small sprinkling of Mussulmans, who are recent importations from Cuddalore and Negapatam. Their average height is 5 feet, and weight 150 pounds. This seems high, but I believe it is from actual experiments. They rise very early in the morning, and go to bed by 8 in the evening, unless they work over-time. In ordinary times, they earn about 8 annas a day. Their food consists mainly of rice, of which they eat two ollocks (raw measure), at each of their three daily meals, with curried mutton, fish, vegetables, *dâl*, or curds and whey. The quantity of meat they eat depends on what they can afford, but they usually do not get much, as fish is cheaper. The Christians among them eat pork, but none of them admits that he will touch beef (perhaps a survival of Hindoo feeling). There are no pure vegetarians, nor are there any teetotalers among them. Their drink depends on their earnings. When work is slack, they drink toddy, of which none says he drinks less than two measures a day (a Madras measure is about a quart). When flush of cash, they drink arrack (fermented toddy), three to five drams per man, per day. Their health is usually good, and I could not find that they are much subject to the complaints you mention (fever, enlarged spleen, and anæmia). When a month off the water, they are said to get ill (probably from want of exercise). They of course anoint their bodies with oil, for work in the water. They begin work at eight or nine years old, first fishing, and afterwards boat work."

My *syce*, who was an expert in the matter of drink, said: one quart bottle of fresh toddy (târee), drunk by a man not accustomed to alcohol is only enough to make him *khoosh* (comfortable). But stale toddy (arrack), he says, is much stronger. I fancy fresh toddy is like *very light beer*. It is also considered nourishing. It should be understood that people in Bengal and South India do not eat rice because they think it the *best thing* for them, but because it is the *cheapest* grain, wheat being probably *unobtainable*, by the poor classes. As rice has only $7\frac{1}{2}$ per cent. of nitrogenous matter, while wheat has 20 per cent., rice eaters have to consume about three times more of it than they would of wheat. Europeans, seeing large masses of rice before the natives, have jumped to the conclusion that they eat rice because it is the best thing for them, and that they eat little else in a hot climate—no greater delusion. They eat rice because they cannot get wheat, and when they do eat it, they must consume a larger quantity of it, and make up by fish, meat, *dâl*, or curds.

On one occasion I employed, for several months, a silk-reeler in Lucknow—a thin, miserable native of Bengal. He was in the habit of eating a good deal of rice, and could get as much as he liked of it in Lucknow. But he once tried wheaten *chapatties*, and he liked them so much that he gradually dropped the rice and stuck to the *chappaties* and *dâl*. He thrived so well on the wheat that when he left he was a different man, and said he would have some difficulty in going back to the rice diet when he returned to Bengal. Bengâlis, although they consume rice largely, eat also a great deal of fish and dâl. And it would be as accurate to say that they live on almost nothing but rice, as to say that the English live on almost nothing but *beef*.

Now with the *Masula* boatmen of Madras I shall compare three first-class prisoners in the jail which was under my charge. They were inhabitants of the N.W. Provinces. They were all five feet high, and were on hard muscular labour. All had increased in weight since they came into jail.

	md.	s.	ch.		md.	s.	ch.
No. 1 weighed	1	12	8	On admission weighed	1	9	5
,, 2 ,,	1	7	0	,, ,, ,,	1	6	12
,, 3 ,,	1	10	12	,, ,, ,,	1	4	14
	3	30	4				

Or an average of 1md. 10s. 1ch., which corresponds to an average of about ninety pounds or so.

The daily diet of the first-class prisoners consisted of eleven ounces of wheat, about seventeen ounces of grain or millet of different kinds. Four times a week in addition they got four ounces of dâl; and on the remaining three days twelve ounces of vegetables. These weights are for the uncooked materials, and the above amount was divided into two meals. They also got one chilly, thirty-six grains of oil, and 100 grains of salt per day, and in the hot weather and rains some vegetable acid. They got no meat or fish, no alcohol, tobacco, or opium. Of course, I could not swear that no prisoners ever got a smoke. Every day they were let out by the sound of a gong early in the morning; recalled by gong in the middle of the day for their dinner, and again in the evening for their supper. They were locked up at dusk. They had a mat to sleep on; their beds, although of dry clay, were raised, and they had plenty of ventilation. In summer they had only light cotton clothing, and one blanket if they cared to make use of it. In winter they had in addition a woollen coat, a woollen cap, and another blanket. Most of these prisoners, provided they were a certain time in jail, increased in weight, and usually those who worked hardest gained most. In short, these prisoners were so well cared for that probably no villager, who had not been fortunate enough to get into jail, had ever been similarly cared for, from the day of his birth to that of his death. I should mention that these prisoners by a mistake of mine had been getting a little larger proportion of wheat than they were entitled to by the rules; yet with all this care and feeding the average weight of these three was only ninety or a hundred pounds!

Whoever would wish to learn how various the needs of man are under different circumstances, and what is good for him to eat and drink in the tropics, in order to keep himself in health, might do worse than get a lesson and disabuse himself of notions inculcated by books by questioning those athletes—the *Masula* boatmen of Madras. A finer and more muscular set of men cannot be found. As has been already stated, they eat rice, meat, fish, *dâl*, vegetables, etc.; drink a good deal; work hard and sleep *sufficiently*. Of course they have no desk work or other mental worry, and live in the open air.

Depend upon it, if people in Europe would cease to write and talk from their own imaginations and would go over the world and see "with their own eyes" (seeing is believing) what this animal man looks like in different

countries, what he feeds on, what he drinks, and otherwise takes, how much he sleeps, what work he does, how long he lives, what he is capable of, what diseases he is subject to, with a few other simple details, and examine themselves, and feel with their own skin what Europeans have to endure, who belong to a totally different climate and race, and have invaded the whole world, they would be able to write more practical books on dietetics, hygieny, and physiology in general than are to be had at present. Persons who possibly may have not left their studios in England, write books with an infinity of microscopical details, and with a bewildering multiplicity of new names, and yet go on copying from each other's books antiquated notions about people in the tropics eating little but rice, and that alcohol is not good for them.

To show that I am not writing at random, I shall quote from books. Carpenter's physiology, edited by Henry Power, M.B., F.R.C.S. (anatomist and physiologist), ninth edition, published in 1881. At page 99, he says: "And we find the Hindoo adding his modicum of 'ghee' (or rancid butter made from bison's milk) to the rice, which constitutes his staple article of diet, with the same relish that the Esquimaux feels for massive lumps of blubber." In this quotation there are two, if not three, errors. First, "ghee" is made out of the butter of the buffalo, the cow, the sheep, or the goat, but no one has ever heard that in India it is made from bison's milk. Secondly, there are many Hindoos who rarely eat rice. Rice eating in India is a matter of comparative cheapness; and certainly in Northern India it is the exception and not the rule. Thirdly, *bazar* "*ghee*" may be rancid, and is often anything but butter, but good "ghee" made at home is not rancid. Moreover, many Hindoos never eat "ghee" simply because they cannot afford it.

Now leaving out of calculation the Mohamedan population, who are intermixed with the Hindoos, *all over India*, and who are *meat* eaters, it is as accurate to say that *rice* constitutes the staple article of diet of the Hindoos, as it is to say that *porridge* is the staple article of food of the people of Great Britain. Over and over again have I read in scientific books that the Hindoos live upon little else but rice. Here are two prisoners, both Hindoos, taken at random, whom I questioned about home food, at the time I weighed them, after conviction.

(a) A *Dhânuk*, 5 feet 1½ inches high, 105 lbs. weight, a strongly built man. He says he eats pork, mutton, fish, wheat, and dâl. *Rice he eats once or twice a month.* He drinks spirits at "Holi" time and weddings. He gets two annas a day, and has himself and his wife to support. He is a habitual thief.

(b) A *Bunyà*, a strong fellow, five feet six inches high, and weighs 130½ lbs. He says he never touches spirits. He eats wheat, dâl, and other grains. *He eats rice from ten to twenty times a year.* He is imprisoned for culpable homicide. If he had not been a teetotaler, his crime might have been attributed to drinking. On page 108 of the same book I quoted is the following: "Fourthly, the special liability of the intemperate to zymotic diseases, seems an indication that the habitual ingestion of alcoholic liquors tends to prevent the due elimination of the azotized products of the disintegration of the system, and thus to induce a "fermentible" condition of the blood." Books on the practice of medicine also state that intemperance renders persons liable to get yellow fever. Yet we have been told that in a recent epidemic of yellow fever (a zymotic disease), in Bermuda, among the few who did not get it, were those who were habitually intemperate. So much so, that these were the only persons, who could be got to go near the sick, or bury the dead!

Further on, the following occurs: "On these grounds, the author has felt himself fully justified in the conclusion that, for physiological reasons alone, habitual abstinence from alcoholic liquors is the best rule that can be laid down for the great majority of healthy individuals, the exceptional cases, in which any real benefit can be derived from their use being comparatively few." Now is this theory founded on *real facts*, collected all over the world, where man exists, or is it evolved out of the writer's imagination, biassed by *Temperancism*? Another book—a recent publication—the "Book of Health" at page 167, states that "the Sicilians and many of the natives of Southern Italy, live almost entirely on bread, or macaroni, which is practically the same thing with a little fruit, or other vegetable." That "almost entirely" (like the all rice diet of the Hindoos), covers a delusion, and is a loose way of writing in a scientific work. The Sicilians and Southern Italians, it is true, eat a good deal of maccheroni and bread, but they also eat a good deal of fish (including "*baccala*" or salted cod-fish), lamb, tripe, liver, fried blood, eggs, milk, cheese, "*ricotta*," fruit, lentils, haricots, beans, mushrooms, olives, oil, lard, etc., besides sausages, ham, bacon, and numbers of other "*Pizzicherie*." They almost all drink coffee (now adulterated with chicory), and I should say there is not a "*teetotaler*" among them. On Sundays and festas, and market days, unless they are beggars, they invariably have either beef, pork, fowl, or such like extras, and on these occasions they have *meat gravy* on their maccheroni; and there are probably few who eat maccheroni, without sprinkling a good deal of grated cheese over them.

Some other facts may not be without use, to show that alcohol is an important item in keeping up the general tone of the nervous system, more especially in hot climates, and when taken habitually and in moderation. No doubt its usefulness depends upon the dose. All physicians well know that a drug given in different doses is followed by different effects. Opium in one dose may be a tonic, and stimulant; in another, a narcotic; and in a third, a poison.

Sir Samuel Baker in his travels through Central Africa, proved the value of alcohol in fever. After the store of quinine had come to an end, and not having any spirits, he devised a still, and made a sort of whisky from the fermented grain of the country. By this alcoholic drink, he saved his life, and that of his wife.

(To be continued.)

ON THE TREATMENT OF THE ACUTE STAGE OF ECZEMA.

By D. Mackintosh, M.D., C.M.

The literature of eczema is pretty extensive, and it can hardly be contended by the most astute observer and exacting critic that owing to the prevalence and importance of the disease its treatment has not received a corresponding share of attention. It must indeed be conceded that more than ordinary attention has been bestowed upon the subject. Numerous remedies and modes of treatment have from time to time been suggested for the benefit of sufferers from this troublesome complaint; and, although I have nothing very new or original to communicate, I have suggestions to make and remedies to propose which in the aggregate will speedily arrest the inflammatory stage of the disease, and

put an end to perhaps months or years of future suffering. Had the remedies proposed been less numerous, confusion in their selection and application would have vanished in like proportion. A good deal has to be laid to the charge of those whose mission it is to add to our accumulating stock of remedies. What the busy practitioner of medicine requires is not a multiplication of medicines, many of which are of equal value, but a judicious selection ready to hand and for use on which he may place reliance, and with which he may cure his patients in the shortest possible time both for his own reputation and their benefit. What applies to medicines equally applies to books. A little farrago of remedies is more often than not laid down in the chapter on treatment for the practitioner to select from; instead of the best being pointed out or selected for him, he is left to grope about in the dark, and wade through the mire of remedies the best way he can. My contention is that the experience of bookmakers, and those giants in physic that have gone before ought to be made to lead the junior and less experienced members of the profession in the selection, and mode of administration of the most suitable remedies under, if possible, every conceivable circumstance. I have at my elbow an otherwise excellent volume on skin diseases, where no less than forty-nine drugs are mentioned *seriatim* by an eminent author for external use in eczema without note or comment as to their relative value. This is not at all the sort of book the busy practitioner requires, it is of no practical utility to him. He scans its pages in vain for the benefit of patients to be seen on the morrow's rounds, or expected in the consulting-room in a few minutes time. He is forsooth obliged to lay it aside in the forlorn hope of gleaning nothing of practical advantage from its columns. We want to make ourselves and our books as practical as possible. All knowledge is useful and desirable, but let us more particularly study that description of knowledge which is not scattered over too wide a field for practical purposes —the knowledge that tells in a particular direction—that we daily require at our finger-ends—that leads to the cure of our patients, and is creditable and advantageous to ourselves. Less of theory and more of the practical is the order of the day. The public estimate of us will be none the less favourable if they find us alive to our own interests as well as equal to the emergencies for which our opinions are sought. The probability is that the estimate is rightly formed that is based on the successful application of our knowledge, or on the other hand on our random hits and failure. Our patients believe in us under the former *regime;* we don't see them long under the latter dispensation. The most suitable prescription to our patient at the first interview is urgently demanded. That forty-nine remedies may be indicated in a particular disease, we may with a stretch of imagination believe; but that a particular patient will present himself at our consulting-room forty-nine times to be experimented on with a fresh prescription every time is rather problematical.

In the treatment of the acute stage of eczema, two essentials must be reckoned with before we proceed to tackle the disease itself. The first of these—the patient must be instructed not to wash the eczematous parts, and this advice he must religiously observe. He will probably reply, "but I must wash sometimes." Wash not at all is the new gospel in eczema. He must neither wash with, nor yet without, soap, nor with the usual adjuncts of bran steeped in hot water, oatmeal, milk and water, butter-milk, whey, sour-milk or rain-water, or any other of the usual washes, all of which are mistakes that seriously hamper and delay all curative treatment. That persistent washing predisposes to eczema by drying up the skin and depriving it of the unctuous secretions which impart to it suppleness and softness, qualities on which the natural beauty of the complexion so largely depends, there cannot be a doubt. For the same reason and in the same manner, although it is not generally known, frequent washing with soap and water is disastrous to the growth of hair; it changes its natural colour to a lighter hue; the natural gloss is lost; the hair becomes dry and prematurely grey and early baldness is favoured. The process of destruction is materially hastened by washing the head with warm or hot water during cold weather. The hair and beard should be dressed and kept clean by combing and brushing; a process all-sufficient for purposes of cleanliness, and the only method for preserving a fine head of hair.

In eczema of the head and face, the more essential parts to wash, such as the corners of the eyes and angles of the mouth, may be touched lightly with a small piece of soft sponge, made damp with cold water and immediately dabbed dry. Warm and hot water should be discarded even in the neighbourhood of the eczematous skin. A patient suffering from eczema of the head and face only, may of course sponge and wash his body with warm water as frequently as necessary. Coffee, strong tea, and alcoholic drinks should be forbidden.

The second indication is that the bowels be kept well open. The advantages that are derived from "keeping the ports open" are as apparent in the treatment of eczema as they are substantial and well-understood in political economy. In the case of children grey powder, rhubarb, and soda bicarb, in the proportion of a grain of each taken as required every second or third night, will answer every purpose, or grey powder and magnesia will do equally well. In adults saline medicines hold the first rank taken at regular intervals during the day. The following combination is useful:—

℞ Magnes. sulph..... ℥ vj.
Sodii bicarb..... ℥ j.
Infus. gentian. co.... ad ℥ viij.
M. Take an ounce three times a day before meals.

The sulphate of magnesia is, far and away, the best of all purgative medicines in most other diseases as well as in eczema; the best because the mildest; the least irritating, and certainly one of the most effectual; but it must be taken at the proper time and in the proper quantity. The proper time is an hour before meals, preferably in the morning before breakfast, although it may be taken before any other meal with nearly equal benefit. The proper quantity is three drachms, dissolved in three parts of a tumbler of cold water, or soda water. Hot water does not materially help its action, and it makes the drug more nauseous. Three drachms, sulphate of magnesia, dissolved in an ounce of chloroform water can be "toppled over" almost without taste or inconvenience if followed directly by a cup of tea or beef tea. A four or five grain blue pill taken at night, and the same draught next morning, has its advantages. What is perhaps better still when free purgation is desired is the following pill at bedtime, and the draught in the morning?

℞ Ext. coloc. co..... gr. iij.
Pil. hydrarg..... gr. i.
Ext. hyoscyam. .... gr. i. ft. pil.

Where there is evident torpidity of the liver, the following combination is equal, if not superior, to any other :—

℞ Ext. cascar. sagrad. liq.. ʒ iiiss.
Tinct. nuc. vom. ..... ʒ i.
Glycerini ..... ʒ iij.
Infus. gentian. co. ..ad ʒ viij.
One ounce to be taken directly before dinner, or morning and evening if required to keep bowels regular.

Such medicines as arsenic and iodide of potassium given internally are of no avail. Of course, gouty eczema must be suitably treated.

The great desideratum is the external treatment. I have been in the habit of prescribing an ointment which in most cases pretty nigh approaches the character of a specific :—

℞ Bismuth. subnitr..... ʒ iv.
Zinci oxid. ..... ʒ j.
Acid carbolic liq..... ʒ ss.
Vaselin alb. ..... ʒ ij.

Sometimes I vary the prescription into this form :—

℞ Bismuth. subnitr..... ʒ ij.
Zinci oxid..... ʒ ss.
Glycerini (Price's) .... ʒ iss.
Acid carbolic liq. ..... ♏ xx.
Vaselin alb. ..... ʒ vj.

The latter ointment mixes into a beautiful enamel-like cream which is cooling, and acts as a balm to the irritable skin.

When constant tingling and irritation disturb the patient's rest, I have found the following lotion invaluable :—

℞ Bismuth. subnitr..... ʒ i.
Acid carbolic liq..... ♏ xij.
Glycerini (Price's) .. ʒ iv.
Aq. rosæ .....ad ʒ j.
Shake up and apply with a camel's hair brush.

During the day when business has to be attended to, and the ointment cannot be applied, I prescribe this powder to be dusted on and gently rubbed over the parts affected.

℞ Cimolite
Bismuth. subnitr.
Zinci oxid. āā equal parts, mix.

In more chronic cases the famous unguentum metallarum still holds its ground. It consists of

℞ Ung. zinci.
,, plumbi. acet.
,, hydrarg. nit. āā partes æquales, misce.

This excellent ointment I occasionally vary by substituting white precipitate for the nitrate of mercury ointment.

THE VENTILATION OF PUBLIC BUILDINGS.

By ALFRED J. H CRESPI.

WHAT object ought the designers of public halls, in which meetings are to be held, always to keep before them? Oh, of course, to fit them for public gatherings: what other possible end could they have? That is the very question I should like to have satisfactorily answered: It took me a long time to find out. Anyone who has presided over, or addressed as many public meetings as I have, must have put this question to himself over and over again. Sometimes, as I have noticed people being jammed into remote corners and recesses, where they could neither hear nor see, it has occurred to me that the builders wanted to teach patience; at other times I have fancied that they wished to give people a foretaste of purgatory by packing them on narrow benches, with nothing to support their backs, and without room to stretch their legs. At last I decided to observe the effect upon myself of spending, as one of the audience, three or four evenings a week at public meetings, and then it flashed upon me that the builders of halls and assembly rooms were the best friends the medical profession had in the world. Their object became clear—it was to make people ill, and to find abundant employment for doctors, and it seldom happens that persons are so eminently successful in accomplishing any design which they take up.

A friendly critic in the *Morning Advertiser*, lately spoke with much candour, of some articles of mine as not at all brilliant, and he stigmatised the intense detestation and horror of debt I expressed as neither striking nor original, although, had he been as much hampered with debts as I have been, he would have wondered that I did not use still stronger language. Perhaps, were he to see this paper, he would consider me even duller than he gave me credit for. Why, the very first time I entered a Guildhall, especially if it chanced to be the unventilated little room, which in ancient towns like Bath and Worcester, goes by that time honoured name, I, a medical man, ought to have divined the builder's object, and should have gone away rejoicing. But, positively, it never occurred to me, until my own health was breaking up, that public halls were built and meetings got up in the interests of my professional brethren, and that, as doctors do not take fees from one another, it was, to say the least, unkind to make myself ill and to give unnecessary trouble to a generous friend.

The arrangements of many public rooms are simply disgraceful. It is worse than folly—it is wicked to build halls so low, ill-ventilated, and uncomfortable that the health of everyone who attends meetings in them suffers, and enjoyment and instruction are out of the question. In some towns the only assembly room is a long, low narrow gallery—no other words will describe it—with small windows in one of the two longer sides. No ventilation through the ceiling is attempted, while from the roof hang several large chandeliers, which a tall man, in moving about, finds it difficult not to break. If the windows are opened everyone complains, and very naturally, of the terrible draught; and, much as I revel in fresh air, I cannot deny the justice of their objections. What is to be done? Unventilated, the room is on all, except the coldest nights, a purgatory, and if attempts are made to ventilate it, there is next day an abundant harvest of bad colds, toothache, and tic-doloureux to find employment for several professors of the healing art for three months at least.

On an intensely hot evening, one September, I was at the Worcester Guildhall, a room in which a hundred people could comfortably dine, but which, from the faults I have mentioned, is unfit for a crowded meeting. It was packed to overflowing, and at the back people were standing as close together as human beings could possibly be wedged. Fortunately I was near one of the low windows, and was rejoicing that, if another Black Hole of Calcutta affair happened, there would be some chance of my escaping, but alas, how transient is human happiness! A lady behind me, before the lecture commenced, exclaimed sharply "oh, dear, what a draught. One of the windows is open." Her husband seized the rope connected with the upper sash, or whatever it was that was open, and shut it with a bang. The lecturer, Canon, now Bishop Alfred Barry, whose eloquence, perfect mastery of his subject, and accurate learning could alone, under such circumstances, have kept the audience together, suffered greatly from the

heat. In closing his long and brilliant address, there was deep feeling and much good humour in the manner in which he thanked his listeners for the patience and attention they had given him "in a somewhat painful atmosphere." Now, I ask, why cannot public rooms be made lofty and wide enough to fit them for meetings? Even in the Worcester Guildhall it ought to be possible to attend a meeting, on a warm summer night, without the risk of an attack of typhus.

A couple of days before listening to Dr. Barry, I spoke in a fine, large hall in Birmingham, that had, at considerable expense, been recently beautifully painted. The audience was large, and the closeness overpowering. The room is lighted from the top, and is said to be ventilated through the roof, though no one whom I have ever spoken to appears to have seen the ventilators. I have spoken twenty times at least in that room, and at all seasons of the year, and there has always been the same insufferable foulness of atmosphere. Four or five crowded meetings are held in it every week, but it would be easy to contend that, even in the coldest weather, the heat and closeness are distressing.

A large room in Birmingham, in which I have sometimes spoken, is frequently used for Sunday Services, and for at least two crowded meetings every week. This room, though large, is extremely low. In the windows, at the lower part, is a movable pane, the only means of ventilation. One warm evening, when I happened to be taking part in a meeting there, I ordered some of the nearest windows to be opened, as everyone was oppressed by the heat and foul air. The movable pane was opened, but though only about four feet from the ground, it is so arranged that, instead of directing the current of fresh air towards the ceiling, only twelve feet from the floor—and this would make the draught less destressing—it throws the current towards the floor, and of course, full in the faces of the people sitting close to it. The room is at night lighted by numerous gas brackets fixed within a few feet of the floor, and so, when the movable panes were tilted up on the night in question, a strong draught blew right into the faces of the audience, while the gas began to roar. Of course the windows had to be immediately closed, and when the meeting came to an end no one was sorry. That room, by the way, has only recently been built. After all it is not so much the actual temperature of public halls that is objectionable, though a thermometer has been seen to mark 77° in a crowded room, as the foulness of the atmosphere. One could bear the heat in the open air, but in a closed room, horrible!! A friend was telling me that he thoroughly enjoyed sitting in the open air one day with the thermometer at 82°, but when he entered an unventilated room four degrees cooler, he found the difficulty of breathing most painful and he was soon in a profuse perspiration.

From more than a limited knowledge of public meetings, I am sure that the langour and indifference often displayed are incomparably greater when the room is badly ventilated. A thoroughly attentive and interested audience can hardly be looked for unless the air is cool and fresh, and that can not be counted upon except in the town hall of a great city like Birmingham or Manchester, and not always there.

No doubt it is very philanthropic of builders to think so much of the doctor's interests, but as it is an axiom of this benevolent generation that the happiness of the many should go before that of the few, it would be better to consider the audience rather than their medical attendants. Any person who, like myself, understands the value and comfort of fresh air, would feel the heat and closeness more than most people. Very likely too, as I nearly always have my windows open, day and night, I should complain of the atmosphere of rooms, that would seem reasonably pure to persons who dread fresh air as the greatest of nuisances. By the way have any of my readers noticed that travellers, who have had to camp out for months, often describe the difficulty they find in sleeping in a room unless all the windows were wide open. That shows how sensitive to atmospheric impurities a perfectly healthy human being naturally is. In close rooms health must suffer, although the defective ventilation may not annoy the people sitting in them. It would be out of place here to insist on the importance of efficient ventilation, and on the necessity of good, large, lofty rooms; everybody knows that. But why, in the name of common sense, will people not use their knowledge? Surely everyone is aware that public buildings ought to be so constructed that the height should be as great as the width, and that even for acoustic purposes, the width should not be less than half the length. There should be large windows in both the longer sides, and when ventilation is carried out by movable panes, they should be at the top, not at the bottom of the window, so that the current should be directed towards the ceiling, not into the faces of the audience. Yesterday evening I went into a Church, which has recently been restored at great expense, and the ventilating panes were low down in the windows. Except in calm, hot weather, they could seldom be opened, and there would probably always be a draught. Why, especially in churches, should not numerous ventilating apertures be made in the upper part of the walls, not merely six small holes as one often sees, but, when the building is large, sixty or eighty. And these apertures ought never to be closed. It is seldom agreeable to sit a long service out in the gallery of a church or chapel, the ventilation is so bad, and the heat so oppressive. On many occasions, when the closeness was overpowering, I have been assured that all the ventilators were open.

Suppose we try to imagine,—and a very strong imagination is needed, that the builders and designers of new churches and halls wish to make the audience comfortable, one would expect few difficulties. The want of money is the principal complaint and is made the excuse for every fault of omission and commission. The saving by doing without architectural ornamentation would, in many cases, enable the walls to be carried a few feet higher, and health ought always to take precedence of architecture, although when the funds will admit of it, it not only ought, but should, have its full share of attention. Again, why is it necessary to build public rooms in crowded thoroughfares, where land is fabulously dear? The saving by putting new churches and halls in side streets would often in great towns, make all the difference between a badly-constructed, ill-ventilated room, and one which would answer all the ends, that in such circumstances should never be forgotten.

A public building generally lasts many years; it is ostensibly built for holding meetings, and should be adapted to this end. When sufficient funds are not forthcoming to cover the expense of large, permanent, well-ventilated rooms, it would show greater wisdom and foresight to put up temporary iron structures, which would answer well enough for a few years, and in due time it might be possible to replace them with scientifically constructed, durable places, in which it would be a pleasure to pass a few hours occasionally.

In proportion to its cubical space, more persons can be comfortably placed in a large than in a small, low room. Dr. Parkes thought that in this climate it would be impracticable, without giving rise to unpleasant draughts, to change the air of a room oftener than three or four times an hour. Obviously, then, to prevent the air from getting offensive and injurious, sufficient space is indispensable. But a small crowded room, cannot, whatever is done, be properly ventilated, nor could the air be changed four times an hour, because it would be impossible to arrange the ventilating apertures so that strong draughts would not arise. The greater the difference between the temperature in the room and that of the air outside, the more violent would be the draught, so that there would be an almost irresistible temptation to close every inlet, however small. Moreover, the atmosphere of any room, will have its temperature still more rapidly and painfully raised if many gas burners are alight, and if the air exhaled from many lungs is being discharged into it. Perhaps it is particularly fortunate that when the room is so much hotter than outside, do what people like, they cannot keep out a good deal of fresh air, and currents rapidly pass through the walls and the floors, while through every chink and hole the current is continuous.

Surely if the interests of the listeners go for little, those of the speakers ought to be considered. It is most trying to speak for an hour and a half, when your head is aching violently and you are half suffocated. And how can you expect the grandest flight of rhetoric to have its due effect on your audience; how can you hope that the reporters will understand you? Not long ago I chanced to be in the Bath Guildhall, and considering the atmosphere, it was as well for my relatives that I had previously taken the precaution to insure my life heavily. The speaker was Canon Basil Wilberforce, of Southampton, and the subject was Teetotalism. I regret to add that the unqualified assertions and boundless promises of that ardent young clergyman failed to impress his listeners as they ought. But what could he expect in a room the atmosphere of which was little worse—better I mean—than that of the Grotto del Cane, near Naples? With charming good nature, and apparently perfect faith, "Dean" Wilberforce, as the teetotalers used to designate him, before they styled him *The Canon*, spelt with capital letters of the largest size, or, as he was called by a medical man at the Bath Meeting, the "Dean of Southampton," promised the chairman—a venerable admiral, near the end of his travels, judging from his appearance—ten additional years of life, if he would forthwith sign the pledge and become a total abstainer. It was no use. The mephitic atmosphere made it impossible for the admiral to understand the promise, much less to act upon it; nor would he agree to give a £10 cheque to the temperance society which Mr. Wilberforce represented, though earnestly pressed to do so. What wonder that chairman and listeners should be wool-gathering, even when the ardour of the speaker led him to make such wonderful promises as ten additional years to a man not apparently likely to live five! How many years extra would Mr. Wilberforce promise a young man, if he would become a total abstainer? Fifty, at least. But in the poisonous atmosphere of the Bath Guildhall, on a warm spring night, few converts, young or old, could be made.

No, in the interests of speakers, chairmen, and listeners, we must have better and larger public rooms; and when we have got them, care must be taken to ventilate them properly and scientifically, and in new rooms and churches there should be no false economy.

In public buildings, not used for meetings, it is equally important to remember that, unless there is ample space, efficient ventilation is impossible. Rooms in which people are to live and sleep should be large enough to make it easy to change the atmosphere three or four times an hour without inconvenience. And ventilation will be easier and more thorough if the house is not greatly hemmed in at back and front, and if every reasonable facility is afforded for the free circulation of the air in the house itself. Ventilators should be fixed in all walls and over all doors. The result could not but be beneficial, and in the long run, perfect ventilation might actually give every man on the average some additional years of life.

The following remarks are neither very striking nor original; though their truth everyone must admit, and there the matter will end; it is really too preposterous to expect that anyone will try to practise what everyone knows, for how many show their faith by their works? Granting that it is decided not to allow the air of a room to contain more than six feet of carbonic acid per ten thousand; admitting, too, that a healthy adult man gives off fifteen cubic feet of carbonic acid in twenty-four hours; and assuming that every ten thousand feet of ordinary fresh air contain four feet of carbonic acid, an adult would require nearly seventy-five thousand feet of fresh air a day, or, supposing that he were confined to a room containing a thousand cubic feet, the air would need to be changed three times an hour, day and night. Were the air changed five times an hour, the space per head need not exceed six hundred cubic feet. Were it thought that air could be safely breathed, containing as much as seven feet of carbonic acid in ten thousand, the space per head could be reduced, and might be four hundred only. In the better class of houses this allowance of air and this dwelling space are commonly provided, and, therefore, as far as their occupants go, there is generally little cause for complaint. In the poorer sort of houses the supply is much smaller, and the accommodation more restricted. But in practice it is not found that the atmosphere, even of good sized rooms, is sufficiently pure and agreeable to satisfy the sanitarian, and the explanation is that allowance is not made for the impurities which large fires, stoves, candles, and gas burners give off. An ordinary gas burner requires, on an average, the oxygen of twenty-four cubic feet of air, and gives off, in addition to other impurities, six cubic feet of carbonic acid per hour. In other words, one burner produces enough carbonic acid to make thirty thousand feet of air of average purity injurious. Two burners will, in an hour, consume as much air as would support a healthy man twenty-four hours. The supply of fresh air for the human inhabitants of a house is not therefore the most important matter, every burner needing a supply equivalent to that of eleven or twelve adult men. Then there are other animals, as large dogs and cats, that do their best to consume the oxygen in the generally inadequate supply of fresh air; and, last, in the better class of houses, not less than in respectable cottages, plants are often allowed to remain in sitting rooms all night, absorbing oxygen, and giving off carbonic acid. What wonder that in most houses, unless the windows are kept open, and the arrangements for ventilation are perfect, the air is stuffy and impure, while, as for public halls, where there may be no pretence at ventilation, and where, in a confined and insufficient space, a thousand people

and a hundred burners may be heating and poisoning the air, what can be expected.

The thorough and constant ventilation of houses is a matter of primary importance. Impure air cannot be breathed with impunity, month after month, and year after year. It is bad economy to inhabit small, ill-ventilated rooms, because they are lower rented than larger ones. Perhaps foul air is an evil not inferior to intemperance, and in the aggregate probably causes greater mischief, and directly or indirectly affects more people.

Oblong rooms are not so well adapted for sound as oval ones, and it is much better to arrange the seats so that the audience should face the platform and the speaker. In Town there are several important chapels, notably, Mr. Spurgeon's Tabernacle, and the vast one near the Wellington Barracks, in which the interests of the audience and the speakers, rather than those of the doctors, have been considered. The success has been signal, and even people sitting in the galleries can see and hear. Thorough ventilation, the avoidance of sharp corners, and a certain elevation, are the great thing, and so the objections to, and discomforts of most crowded meetings might, in some measure, be neutralised.

As soon as the habit is formed of living in large, well-ventilated rooms, it is exceedingly painful to pass an evening in a hot, impure atmosphere. And what a gain too there is in other respects in getting to love fresh air and learning to live in it: you enjoy life more, need smaller fires, are able to get through more work, and live longer. Were public halls well ventilated, who knows, even dull speakers might become lively; and those would-be orators who repeat the latter half of every sentence, having forgotten where they left off, might, in a clearer atmosphere, talk more coherently and intelligently, and weary their much-tried audience less.

ON THE APPLICATION OF ANÆSTHETICS IN NATURAL LABOUR.[1]

By M. Charpentier, M.D., Paris,

At the time of the publication of my "Treatise on Confinements" in 1883, I devoted a long chapter to the application of anæsthetic agents in natural labour. It seemed at this epoch interesting to group the documents relating to a question so much the subject of controversy. I then gave a detailed history up to 1878—the epoch when Pinard, in his *thèse d'agrégation*, concluded that anæsthetics should be rejected. Numerous papers have been since published, such as those of Dutertre in 1882; Hofmeir, Sawill, Morris, 1883; Muller, 1884; Cohn, 1886, etc. The most complete is that of Dutertre, who—in opposition to Pinard—declares himself a resolute partisan of the employment of chloroform in natural labour. Here it is necessary to make a distinction: sometimes anæsthesthia is given up to complete narcosis; this is *surgical anæsthesia*, and all accoucheurs are in agreement upon it. They reserve it for cases when obstetrical intervention is demanded, in the interest of the mother or the infant—forceps, version, embryotomy, etc. Sometimes, on the contrary, anæsthesia need not be pushed to complete narcosis. Here we have to deal with what is known at the present day as obstetrical anæsthesia, and this is the form I wish to speak about on the present occasion. Employed regularly abroad, obstetrical anæsthesia even in France now meets with, in reality, little opposition, and almost all accoucheurs recognise its advantages and its innocuity, if not in every case, at least in a good number of circumstances, which I shall pass in review under the heading of indications. Obstetrical anæsthesia comprises two great varieties.

1. General anæsthesia.
2. Local anæsthesia.

I.—*General anæsthesia.*

There are three principal agents—viz., ether, chloral, chloroform, and a series of mixed agents composed of various combinations. There are two other agents—though of very limited use—bromide of ethyl and protoxide of azote.

1. Ether, employed for the first time by Simpson on the 19th of June, 1847, vigorously attacked by Montgomery, Barnes, Gream, Reid, Ramsbotham in London, and Meigs (Philadelphia), accepted on the other hand by most of the other learned societies of the United Kingdom, is still employed by most physicians. In France it had little success, and was promptly replaced by chloroform, which is to-day the current anæsthetic agent.

2. Chloral, which we employ in the usual manner, not—properly speaking—as an anæsthetic agent, but as a powerful calmative, which allows us to procure for the parturient artificial rest at any moment of labour. It is in effect impossible to keep women under the influence of ether or chloroform from the commencement of labour to the expulsion of the fœtus. Now during the first period, that is to say, that of dilatation, a time so painful, and so badly borne in general by patients, chloral has an indisputable efficacy, employed in lavements: dose—three to four grammes, and renewed at need every three, four, or five hours. It is especially useful in cases where the back pains are very painful. Where dilatation proceeds slowly, either on account of weakness of the contractions, their irregularity, or on account of rigidity of the os in primiparæ, chloral should be especially employed. Not only has chloral no injurious influence on uterine contraction, but often it regulates it, leaving to it all its intensity; it thus notably diminishes the duration of labour. In the last half of labour chloral has a much less decisive action, and we must resort to chloroform, or local anæsthetics, if we want to give our patients real relief.

3. Chloroform was discovered in 1831 by Souberan in France; Liebig in Germany. It was employed for the first time by Simpson in 1847, and it first met with the same opposition as ether, but the two confinements of the Queen in 1853 and 1857 soon put it *à la mode* in England. Chloroform *à la reine* become of current application in the hands of Merriman, Murphy, Gream, Stallard, Lansdown, Protheroe, Smith, Denham, etc. The employment of chloroform in obstetrics spread from England to America. In spite of the efforts of Meigs (Philadelphia), Channing and all the accoucheurs employed it regularly in natural labour. In Germany, Siebold, Sachs, Scanzoni rejected it. It is, on the contrary, recommended by Breit, Krieger, Orlowsky, Kiehl, Grenser, Haller, Kiwisch, Harnier, Winckel, Spiegelberg, Schroeder, Martin, Hofmeir, etc. In Russia, Pirogoff, Mianowsky, Kurowicz, Tarnowsky, Hugenberger, and Krassowsky employed it in natural labour. Levy at Copenhagen; Howitz, Heyerdahl, Schidlart in Scandinavia; Romiti, Corradi in Italy; Piachaud in Switzerland; Hubert, Hyernaux, Charles in Belgium are partisans of anæsthetics. In France anæsthesia had more difficulty in spreading, in spite of the observations of Fournier Deschamps, 24th June, 1847; the experiences of

[1] A paper read at Obstetrical and Gynæcological Society, Paris, May 22nd, 1889, and published in the Bulletins of the Society.

Paul Dubois; the works of Houzelot, Blot, Bouchacourt, Courty, Bailly, Legroux, Dumontpellier, and especially of Campbell. Anæsthesia applied to natural labour is combated by De Paul, Pajot, Pinard; accepted with certain reserves by Barquissau, Chailly, and praised anew by Dutertre, Lucas-Championniere, and Budin.

Practitioners who have used chloroform know very well that between the first period—excitation, and the terminal one—narcosis, there exists an intermediacy period, characterised by a kind of chloroformic ebriety, which notably weakens the intensity of perception, by obnumbration of the nervous centres; and that this ebriety is compatible with the persistence of reflex sensibility. Now this is precisely the aim of obstetrical anæsthesia; it seeks to bring about a state of relative insensibility, to suppress excitation without reaching narcosis. The condition indispensable and difficult to realise in practice is, to know how to regulate and moderate the action of the anæsthetic. Those who observe without prejudice feel no doubt that if chloroformisation be long continued, when the dose of chloroform is augmented to totally suppress the pain felt by the women, or even, on the contrary, if moderate doses are given, we arrive more or less rapidly at, or pass, the state of chloroformic ebriety, and produce true narcosis. The proof of this is furnished by the slowing and weakness of the contractions; then by their almost definite cessation. If the chloroformisation be prolonged, obstetrical anæsthesia constitutes then less a scientific unknown quantity than a practical difficulty, which may vary with each new application, and with each individuality—hence the numerous and discordant discussions of different authors. Now if we took the works of men who have studied the question with the greatest care, without wishing to enter on the intimate mode of action of chloroform on the nervous system, we shall see how its action is explained. Spiegelberg has established:

1. That if we give chloroform progressively mixed with air, sensibility diminishes, and, in particular, pain of contraction; that intellectual consciousness is preserved, that the woman feels herself relieved, and that the uterine contractions at first weakened, soon return more frequently and more regularly. As Beally and Bailly say, the women know that they have contractions, but they do not feel them. In suspending and alternating the inhalations, women can be maintained for a long time in this condition, which constitutes the first stage—obstetrical anæsthesia.

2. That if we continue the inhalations without interrupting them, the second stage is reached, that of complete narcosis. Consciousness and mobility are lost; reflex action being weakened, the uterine contractions become slower, but they preserve their force; the same being true of contraction of the abdominal muscles.

3. That if we push the chloroform further, the third stage is reached: there is stupor, coma; uterine contraction becomes feeble and rare.

Resumé.—In the first stage there is no influence on contraction. In the second stage, if we give chloroform in the onset in large doses, there is initial weakness of the contractions; then a return to the normal state. In the third stage there is diminution of contraction; complete cessation may be maintained by pushing the chloroform. But then the woman runs serious danger, for the heart and other muscular viscera are paralysed as well as the uterus. The infant is not influenced by the chloroform.

(*To be continued.*)

CHILL, OR RIGOR.

By WILLIAM H. PEARSE, M.D. EDIN.,

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1. *Its Frequency.*—Rigor is found associated with a great number of the deviations from health to which the body is subject—*i.e.*, it is a change common to a great number of what our nomenclatures call "different diseases." These different diseases include the great Fever group—the exanthemata, the acute inflammations, the febro-inflammations, such as the border-land febro-infective pneumonias, epidemic febro-bronchial cases, infective dysentery, acute syphilitic fever, cynanche, herpes, etc. Rigor is perhaps the most general fact in pathology. It may fairly be viewed, in point of frequency, as an approximative basis of pathology. We may also justly think that it is a basis in comparative pathology. We see our pet birds die, within a day or two after a persistent ruffling of their feathers, and by analogy we may fairly surmise that this condition is associated with rigor. Other animals exhibit the same phenomenon, and with fatal results. As far as ordinary observation goes, we may ask, Under what conditions does rigor arise?

(*a*) With and after emotions of fear, joy, etc.

(*b*) With and after changed modes of nerve and other tissue—*e.g.*, as in passing a catheter, syringing the ear, micturating, etc.

(*c*) After taking food and drink.

(*d*) With and after externally-changed environment.

We count up such external conditions and call them "causes," but they are, each and all, but facts in an orderly continuity. Take, *e.g.*, the seemingly-simplest of these external conditions which is followed by rigor or chill—that of taking food or a drink of water. Every cell-contents in the body is changed in its modes and correlations by the mere absorption of water from the stomach. Or take the example of a mere change of place or shift of wind. Every molecule of protoplasm within the body must have its equipoise of correlation disturbed and changed by both change of place and shift of wind. If to some minds such views are not *à priori* evident, and are not seen as necessary truths, flowing from the conditions of the cosmic evolution of the organic, they have at least been abundantly demonstrated by experience, for at recurrent periods cholera, yellow fever, etc., have evolved, or their conditions been precipitated, by changes of drinking water, by changes of place, changes of wind and weather, etc. It seems just to hold that the Form or modes of rigor are present when the extreme sense of rigor may not be so manifest—*e.g.*, severe rigor often ushers in small-pox and yellow fever, but the amount of sensible rigor varies greatly in degree. Men are stricken down with black-vomit at once, with hardly-recognizable rigor. The worse-type cases of small-pox—the hæmorrhagic—often show with hardly any of the course of symptoms which are characteristic of typical severe small-pox. The rigor which ushers in a case of herpes or cynanche tonsillaris is often far more severe than that which precedes a fatal case of hæmorrhagic small-pox or yellow fever. But although rigor in some cases is so little manifested, yet it is the widest yet-recognized change, in common, to the great fever and febro-inflammatory groups. Even if it be seemingly absent in certain cases of yellow fever, cholera, etc., yet analogy compels us to see that its essential Form and process has, not the less, been existent.

We have then in rigor a so-far ultimate basis in patho-

logy. Our conception of the orderly methods of nature compels us to see that a great unity of process pervades the Form of so many of our "different diseases." It is important to bear in mind that rigor is but a *so-far* basis in pathology; because prior to its occurrence there must have been reached an unstable vito-chemical mode of protoplasm and albuminoids—without which, the changed place, or water, or wind, or emotion, or shock, could not have brought about the molecular vito-chemical disturbances which rigor reveals. It would be strange indeed if the highest and most differentiated, and most cosmically correlated, and complex, of all evolutions—the organic—should not be found to be as rigorously and absolutely under law and order as are the more elementary, mechanical, physical, and chemical motions and affinities. It seems therefore just that we should dwell on rigor as a fundamental fact in pathology, both when viewed by the general analogies of philosophical method, and by the observations of its great frequency in disease.

2. *Its Primary or Early Occurrence.*—We have seen the vast range over which rigor occurs; we equally see that it expresses the earliest changes in protoplasm from the rates, composition, and modes of health.

It seems as an *à priori* truth that the changes involved in, or productive of, rigor are in continuity of law with normal rates, or health. Like to the changes, say in nitro-glycerine on the addition of rapid motion or heat—percussion—there is nothing added to albumenoids, nothing lost; but there is disturbance of molecular bonds and changed intermolecular motions and modes of motion. New bodies are formed, or new and inharmonious motions and correlations are established. We are sure that the intermolecular vito-chemical changes which rigor reveals must be as orderly and by law as are the changes in all other chemistry. We further see that in the almost universality and primary occurrence of rigor, that it implies a universal Form and generic orderly law. Although the "diseases" which follow rigor are, in our present state of knowledge, justly enough grouped as "different," yet observation and analogy point to their greater unity. We can no longer regard the realms of nature either in 'elementary' (?) matter, compounds of matter, or in species or genera; or in the different parts of the living animal; or in races and languages, institutions, or philosophies, as mapped out, with "specific" differences: nor can we regard the best demarked fevers as specifically different; they have all a great generic unity of method and course primary rigor, followed by pyrexia. But albumen is not one simple body, but "compounded of many albumens, having *very nearly* the same composition. . . ." (Schutzenberger). In view of the high atomic constitution of albumen, and in view of the so-different environment as is involved in different latitudes, the devolutions or vito-chemical reversions of albuminoids and protoplasm must necessarily be varied, and thus the fevers of one latitude and place vary from those of another latitude; but their great type is one and the same: the primary rigor has always the same generic type of change whether it be followed by herpes and pyrexia in England, or by black-vomit and pyrexia in Vera Cruz. It appears to me that it is to forsake all philosophical analogy unless we look for one grand type of vito-chemical reversion as the basis of the great fever and febro-inflammatory groups, and this reversion is revealed by Rigor. Rigor is made conscious to us—in the recognition by the fundamental energy and "irritability," and their higher differentiations in and of us, of primary vito-chemical changes in the modes and molecular motions and correlations of protoplasm. It reveals death, more or less, or reversion of highly-differentiated chemical bodies to more stable bodies, with consequent evolution of heat.

3. *Approximate Groups of Diseases which have Rigor as a Fundamental Stage.*—The history of knowledge has often shown that our greatest advances in method and generalisation have been by following some apparently simple facts. In medicine, the most harmless phenomena of disease must be in continuity, or of the same class or Form as those greater disturbances which are so fatal to life. I would, therefore, refer to those classes of cases seemingly simple, but pathologically profound, which are expressed by patients, by such words as "chilliness;" by chilliness followed by a general "soreness of bones," "soreness of body," "aching all over, as if I had been beaten," etc. These symptoms are often associated with pyrexia and headache. No localisations of disease can be discovered, and it is impossible to say whether or not such symptoms are the early stages of a continued fever. A careful observer will, however, seldom be in error of judgment, as they are generally in our latitudes more sudden and acute than is the onset of a continued fever. But is it possible to doubt that their method and pathology are absolutely generic with those of more serious fevers? Such cases appear to be revealers of the method of nature. The physcist or chemist does not seek to unravel the universal laws of nature by observation of the greatest phenomena of those laws. They study the most simple examples, and, finding their order and laws, apply such laws to the largest and most complex phenomena. On the same principles of method the simpler classes of diseases which I have cited may become revealers of the widest laws and Forms of pathology.

From the equator to high north and south latitudes man shows fevers. Somewhat constant types of such fevers belong to certain latitudes, but such a law is far from absolute—*e.g.*, yellow fever, which is an endemic tendency of Europeans in the Gulf of Mexico, has, now and then, shown in the Mediterranean and English latitudes; typhoid, endemic to man in from 40° to 60° north latitude, has evolved out of protoplasm in India, South Africa, and in the virgin forests of New Zealand, etc. Indeed, there have been ever appearing, fevers, which, observers being unable to group under orthodox names, have received new names, generally taken from the localities of their occurrence—*e.g.*, we have had Wallachern fever, Cape-coast Castle fever, Nuddea (Sunderbund) fever, etc. Thus there exists a vast range, and a vast but graduated and related series, of fevers. But more than this, during epidemics of yellow fever, cholera, etc., many "other diseases" tend to assume the aspects of the greater types. In a descriptive sense we are compelled to give names to our diseases, but we must with constant care remember that the whole of the varied groups and different diseases have a profounder unity and pathological continuity. The most general and primary symptom of the vast and varied, yet allied series—the fevers from 0° to 70° north and to 50° south latitude—is rigor. All the analogies of the simplicity of nature compel us to feel that the fevers we call agues—quotidian, tertian, and quartian—well demarked as they often are, are but gradations of one series. Indeed, what was at first a quotidian will, after a time, become a tertian or quartian. In the natives of India "fever" assumes the most graduated series. They are subject to

fever, which they call *tap* and *bukhár*, which cannot be justly classed under either of the intermittents, and which will appear in them after a great variety of shocks or exposures or depressions. Further, natives will exhibit fever, which one is obliged to call remittent, but of most varying degree and duration. Rigor is the phenomenon common to the earliest recognizable stages of all these types—rigor, with the subsequent pyrexia.

But if rigor is a basis of the great fever group, it is no less so of what we call the true inflammations. We all recognise the differences between a case of typical pneumonia in a young and seemingly healthy farmer, and a case of continued fever; but, on the other hand, we have infective pneumonia, epidemic pneumonia, and cases where the degree of pneumonia is slight, but the general fever well marked. In fact, fever and pneumonia are often, according to just and common observation, far more allied than distinct, and rigor is a so-far primary base of them all. One of my most serious impressions of comparative disease was that of an epidemic of bronchial fever, amongst young adults, in a voyage from Birkenhead to Melbourne in 1857. In the earliest weeks many had small, moist, catarrhal râles at the bases of the lungs, without dulness on percussion, and associated with rigors and malaise. As the voyage progressed, the cases assumed a fatal fever type. Many died. I have seen bronchial fever in other voyages. In fact, the word "bronchitis," as expressing in the main a disease within the lungs, not only circumscribes our view, but is misleading in pathology. Bronchitis, in many cases, is more a fever than an inflammation; it is truly a general disease. If one may dare to build any inference on the quicksands of treatment—though one would never neglect the aim of the fit use of strychnine, belladonna, strammonium, opium, etc., in reference to spasm—yet I have often given quinine and a mineral acid with as much satisfaction as has been given in other cases by the orthodox stimulo-expectorant mixtures. I hope that I have now cited enough of the great fever, inflammatory, febro-inflammatory, and border-land groups, to illustrate the phenomena of rigor, as in a great degree a basis common to them all; and to illustrate further, that gradation and alliance have a greater place in the form of these diseases than have their differences. The doctrine of the "specific" seems to subside.

(*To be continued.*)

Special Articles.

HEALTH RESORTS OF THE WORLD.

XXXIII.—BATH.

BATH is one of the oldest and the best known of our health resorts, though it has experienced great changes in its fortunes. Its Pump Room, which received on June 13th the Duchess of Albany and the distinguished guests of the Mayor and Corporation at the installation of the new baths, had seen all the stately dignataries of the generation of Beau Nash, and its floors had been trodden by belles and beaux of fashion of the Regency. But this is modern history in connection with the life of Bath. It has a history interesting to the archæologist. It was one of the Roman stations, and, if we may believe our historians, its origin as a natural health resort may be attributed to the Romans, who called it the "Water of the Sun." The Saxons named it the "City of the Sick." The Roman Thermæ were destroyed A.D. 577, and re-established in the seventh century; enlarged A.D. 1235, 1575, 1664, 1750, 1788, 1859. In 1588 a book was published by William Lampard, called the "Office of the Justice of the Peace," and in it we find the following reference: "Two justices may licence diseased persons (living on almes) to travel to Bath to remedy their griefe." On the site of the temple of Diana we were informed by the Mayor of Bath in his address to the Duchess of Albany, June 13th, that the present Pump Room stands, so that the historical traditions of the baths are carried down to our time.

The 13th June was a memorable occasion in the history of these springs. The circumstances attending the ceremony were carried out with a magnificence worthy of a rich and hospitable corporation. From all parts of England medical men were invited, and, in order to lighten the burden of expense to the guests, the Corporation sent them first-class railway passes. A special train left Paddington at 10-30 laden with medical men from the metropolis and the provinces, who, on their arrival, were received with all honour by the Mayor and Corporation. Special carriages were in waiting to drive them to the Guildhall to partake of the civic hospitality in the shape of a magnificent luncheon, and as the visitors drove through the streets of Bath, it was evident that the city was in a holiday mood. The streets were lined with citizens; houses were decorated; arches spanned the streets, and the scene was enlivened by the presence of the local volunteers, who lined the route through which the guests passed to the Guildhall, where a luncheon, given by the Mayor, W. H. Freeman, F.R.C.S., of the choicest character was served.

After the usual toasts of the Queen and the Royal Family, the profession was honoured by a special toast, "the distinguished members of the medical profession." This was appropriately proposed by the Mayor who in the name of the city most heartily thanked the medical men for their presence that day. They had rallied round them in large numbers on that very interesting occasion, many at great personal sacrifice and inconvenience. He coupled with the toast the names of Dr. Peel-Ritchie, President of the Royal College of Physicians, Edinburgh, and Dr. Broadbent, who responded in suitable terms. Great disappointment was manifested at the absence of Princess Louise, who had promised to open the new baths, and universal regret was expressed on account of Her Royal Highness's indisposition, but the readiness and heartiness with which the Duchess of Albany stepped into the breach and took the place of her distinguished relative compensated for any inconvenience that had been caused, and secured for the widow of the Queen's youngest son a most cordial and loyal reception. The Duchess arrived at two o'clock, and was received at the Sydney Gardens siding, by the Mayor, the Mayoress, the Marquis and Marchioness of Bath, the Earl of Cork, and the Bishop of Bath and Wells. Her Royal Highness drove to the Guildhall, and after a brief stay there proceeded to the celebrated Pump Room, where, on behalf of the Princess Louise, she received several addresses and listened to an admirably concise explanatory speech delivered by the Mayor.

The Mayor, addressing the Duchess, said:—Your Royal Highness: In the name of the Corporate body of this ancient city I am greatly pleased at Your Royal Highness's kindliness in coming here, and for your graceful condes-

cension in responding so readily to our prayer. We deeply regret your Royal Highness the indisposition of your august relative, and we trust that she will speedily be restored to health. The room in which your Royal Highness now sits is the Grand Pump Room; it was built in the year 1796. Two thousand years ago on the ground on which we are now standing stood the temple of Diana. On the site of the Abbey Churchyard and the Abbey stood the "Hall of Justice," the basilica. At the west end of the Abbey Churchyard, and to our left, stood the great temple of Minerva, the presiding genius of the water. The great portion of the Churchyard was mainly occupied by a suite of Roman Baths. These hot baths were of very ancient origin. The Romans enclosed the springs nearly 2,000 years ago, and developed a remarkable system of thermæ, the remains of which your Royal Highness will be graciously asked to inspect this afternoon. Since that time there had always been a bathing establishment here. At one period, however, the baths were forgotten, and were most obliterated during the Saxon period, but were rebuilt in the early Norman period. Again they fell into disuse, but three or four centuries afterwards, in the time of Queen Elizabeth, and subsequently, we find them flourishing with various degrees of success. In 1755 the first discoveries of the Roman remains was made, but it is within the past 10 years that excavations have been carried out by our City Architect, Major Davis, who has brought to light the extensive Roman remains of to-day. The baths which you will graciously open were commenced in the year 1886. They have been erected in connection with our Pump Room on the site of the old Queen's Bath and of some of the Roman remains. These new baths are a replica of what we find on the Continent, notably those at Aix-les-Bains; and it is primarily with a view of developing the Aix-les-Bains treatment that the Corporation has ventured to spend the large sum of £25,000 upon this building. Again, your Royal Highness, let me thank you, in the name of our ancient city, for the self-sacrifice you have made in coming amongst us to-day.

Before leaving the raised *daïs* the Mayor handed to the Duchess a handsomely bound volume, containing a series of views of Bath and its environs, and also his new work on "The Thermal Baths of Bath." General Mainwaring (President of the Royal Mineral Water Hospital) handed to H.R.H. a book containing an account of the history of the Institution over which he presides. The book, which was bound in French morocco, contained the following inscription:—"History of the Royal Mineral Water Hospital, Bath; by the late R. W. Falconer, M.D., continued by Anthony Beaufort Brabazon, M.D. Presented to H.R.H. Princess Louise, June 13th, 1889." Major Davis also presented H.R.H. with his work on "The Roman Remains."

From the Pump Room the visitors proceeded through the new bathing establishment, the various methods of applying the waters being explained *en route*. On reaching the Rectangular Roman Bath, a halt was made at a point where a covered awning had been erected, in order to allow Major Davis to explain to the company details of the various discoveries, which he did in a paper which we reproduce.

"Your Royal Highness, my Lords, Ladies, and Gentlemen,—With your permission, and by request of the Mayor, I am permitted the short interval of ten minutes to bring to your notice our ancient baths. In your progress through the new Queen's Baths you doubtless observed the Roman Hypocaust and also the fragments of walls, on which the architect of the new building was compelled to build the new structure of the Queen's Bath. Immediately after leaving the Vapour Bath you crossed the mediaeval King's Bath, so named, either in consequence of its having been originally Crown property, or in remembrance of the numerous Sovereigns who have bathed in our springs. This bath is immediately above the Roman well, discovered by me a few years since, which encloses an area of octagonal form of somewhat the same size as the King's Bath. This well, formed of colossal material by the Romans, was built to secure the water from contamination, and also for the purpose of confining them within a limited area. The mineral water in this well is at present secured by an intermediate floor between it and the King's Bath. A building in the centre of the bath in the form of a drum is the only opening to the spring, over which the water flows, as you have seen it, in volume about 200 gallons a minute, and at a temperature of 116 degrees. This water is distributed by various aqueducts throughout the whole of this establishment, and supplements the other springs of the baths which your Royal Highness has yet to visit. This great Roman wall was the centre of a system of which the bath, on the schola of which you are now sitting, was one of the principal baths. It is always difficult to realise the precise size of a ruin, more especially, as in this case, where the fragments are in such large proportions, but I may compare it with advantage to the banqueting-room in which the Mayor has had the honour of entertaining you. The dimensions of that room are 80ft. by 40ft., but this bath is more than double that size, and when it was complete was as lofty as, if not loftier, than the banqueting-room referred to. I have every reason to believe, from what has been discovered, that this bath is only one of many similar ones, and that the Roman Thermæ in the forth century covered an area exceeding seven acres, and accommodating at one time upwards of 1,000 bathers within its walls, not to mention the much larger area of the gardens and recreation ground that undoubtedly adjoined the baths. It is difficult to assign a precise date to the earliest formation of our baths, as various dimensions I have taken singularly agree with figures that are believed to have been used in south Britain prior to the Roman conquest. Without venturing to ascribe an earlier than a Roman date, it is generally conjectured that they were found by the Emperor Vespasian or his son Titus. We may therefore claim an antiquity of eighteen centuries. The excavations made under my directions have included many discoveries, amongst them this large bath, a large Circular Bath, which your Royal Highness has yet to visit, and several others, all of which had scarcely been anticipated by antiquaries who had studied the subject. In 1734, to the east of this great bath, important Roman work was discovered, but unfortunately destroyed. I am afraid I cannot detain you, or I could explain more in detail the various discoveries, and must therefore be content to mention that this great bath is a type of the others. The water surface of the bath is in the centre of the Hall and enclosed by steps, around which is the schola or platform. The blocks of pillars dividing the schola from the bath are the fragments of a colonnade with arches between, that supported three vaults, two over the scholas and a larger vault in the centre spanning the bath. Fragments of this central vault, as they fell on the destruction of the Baths, are beneath the water. Light was admitted by windows, the arch of one, as it fell, is still at the west end of the bath. These Roman Baths were altered and enlarged at

various times, and on the Romans leaving Britain they were still enjoyed, although the buildings were not maintained in their original extent or in perfect repair. In A.D. 577 Bath was taken, and destroyed by the Saxons, and the place became a waste, and wild fowl laid their eggs in the rushes that grew on the margins of the springs. The heat of the waters was ascribed to magic, and the valley was forsaken. St. David blessed the springs, and King Arthur, we are told, was present at the ceremony; the evil spirit was banished, and the waters, as in the past, were health-giving and the cure of every sickness. A city sprang up under King Offa in the eighth century, and 973 King Edgar was crowned in Bath; and we will hope that the ceremony was not complete without a bath in our mineral waters, although the baths were then confined to the simple area of the springs. This, and the Cross Baths, which was also placed immediately over the springs, sufficed, together with the Leper's Bath, for bathing until the middle of the century. It was frequently suggested that the baths should be covered, but that expense was never incurred. Many of our Royal Sovereigns, including Queen Elizabeth and succeeding Kings and Queens, bathed in the King's Bath. In 1618 the Queen of James I. preferring a smaller bath adjoining, it was named after her, and it was only recently removed to make way for the new buildings, disclosing the large Circular Bath, which has still to be visited. Among other donors, Sir Francis Stonor, the ancestor of Lord Camoys, presented as a thank-offering a handsome balustrade in 1618 that still in part surrounds the King's Bath. In 1664 a building, as a partial covering for the bathers, was erected in the centre, taking the place of an ancient stone cross. A drawing made in 1665 exists in the British Museum showing a crowd of bathers in the bath, with the surrounding galleries full of spectators. As I am instructed to speak more particularly of our ancient baths, I refrain from approaching more modern times, except to express the hope that your Royal Highness approves the structure and arrangements of the new Queen's Bath, which I, as the architect with undivided responsibility, have laboured with considerable thought and anxiety to make the most perfect bathing establishment in Europe, and to effect this result as far as possible under the circumstances, without sacrificing any fragment of the ancient baths—to reconcile, in facts, the exacting demands of modern utility and medical science with a scrupulous regard for historical and antiquarian interests, Within a limited area every appliance of administering water and vapour will be found that is afforded elsewhere, together with several entirely new. Altogether forty different means of treatment can be prescribed in the new Queen's Bath with every comfort and convenience. The Queen's Bath was originally named after Queen Anne, but to make it doubly the Queen's Bath, a bust of her present Majesty has been place on the exterior to commemorate the Jubilee of Queen Victoria." The Duchess of Albany and visitors inspected the new bathing establishment. Each visitor was supplied with a printed guide, showing the number and nature of the different appliances for the benefit of patients. We personally inspected the baths, and we are able to speak in the highest terms of their excellence. They are complete in every respect, and few continental spas can vie with them.

THE NEW BATHS.

We are indebted to the *Bath Argus* for the following very full account of the new establishment.

THE UPPER FLOOR.

To everyone has not been given the opportunity of inspecting the new bathing establishment, and to such the following particulars will convey some idea of its extensive and replete character. Regarding the exterior there need be nothing said since it is the interior of the building that constitutes its importance. The central hall is reached either from the Pump Room, or by the entrance to the old Kings and Queens' Baths by a short passage with a mosaic floor. The hall is a spacious apartment furnished with settees, couches, etc., and is used as a cooling-room for the whole building, care having been taken to make it free from draughts. From this apartment, which serves its purpose in a admirable manner, are entrances to a number of baths and dressing-rooms, in the getting up of which no expense has been spared. In passing it may be observed that all the dressing-rooms are fitted with marble tables and moulded glasses of the date of the first baths, while the bather is able to communicate with the attendant outside by means of an electric bell, which can be reached with ease. A small corridor on the north side of the central hall leads to two dressing-rooms (Nos. 50 and 51), and an Aix douche, giving a varied pressure of water at a required temperature, and also fitted with a shower and feather douche. All the fittings in connection with these are nickel-plated throughout and the bath is intended principally for ladies, as are also dressing-rooms, Nos. 48 and 47, which are attached to a similar but much larger douche bath. The fittings are similar to those in the bath already mentioned only that they are of aluminium instead of being nickel-plated as in the former instance. All the dressing-rooms on this story have a floor of small Diespecker mosaic, and are fitted with oak doors with walnut mouldings, excepting those leading into the central hall, which are of walnut with ebony mouldings. The next dressing-rooms, Nos. 45 and 44, also entered from the central hall, lead into a douche bath 15ft. by 10ft., which is exclusively for the use of gentlemen. These dressing-rooms are laid with ceramic mosaic, and the bath is laid with a tesselated floor by Minton, the fittings being of aluminium as before. It would be well, perhaps, here to describe the method by which the water is delivered for the douche. Two separate supplies of hot and cold water are brought into the bulb in which they mix to the required temperature, this being indicated by a thermometer, the bulb of which is immersed in the mixing liquid. By this means the douche may be applied at any given temperature, according to medical advice. The douche bath last mentioned is elaborately tiled, as indeed are all the baths throughout the establishment, and is so constructed as to form a seat all round. Room No. 43, which is next entered, is devoted to inhalation and for this purpose is supplied with both mineral and spring water, raised to the required heat by passing through a steam chest situated under a portion of the floor, the intricate arrangements of pipes in connection with which gives some idea of how complicated has been the work in this respect. Adjoining this is a room which forms an important feature to the suite of baths. By name it is known as the Humage Room (No. 42). In the centre of the room, the floor of which is composed of handsome ceramic mosaic, is a large walnut table, upon which are ten divisions separated from each other by ornamental porcelain slabs, each division containing an extremely delicate and ingenious instrument for applying the water in various ways. Those in the four end divisions are for application to the

nose, ears, eyes, etc., and those in the six central divisions are for using the water in connection with medicated tinctures, if necessary, for the mouth, throat and respiratory organs. These two rooms may be said to comprise the more special features of the baths, and it is thought that, when their existence becomes thoroughly well known, they will be much resorted to and will prove a source of much remuneration. Room No. 41 contains a reclining bath, a dressing-room fitted with a graduated sofa and glazed screen to enclose the bather while in the bath. Here we have again the mixed douche and feather douche, only the latter is much heavier here than in any of the other baths. Next to this a small corridor, laid with mosaic floor, leads to a lavatory, furnished with hot and cold water and other necessaries, and close to that again we come to a very handsome chamber, with a Pompeian ceramic tesselated floor, and the walls matted with turquoise, blue and white. The bath here is of the usual form of a reclining bath, but it is fitted also with the mixed feather and shower douche, and has in addition a douche for application in cases of lumbago. Special care has been taken to get rid of the steam and vapour arising from the baths, and in other respects the luxury and convenience of bathers have been studied in every possible form.

LOWER FLOOR.

If the baths on this floor are hardly so elaborate as those we have already described, it is due in a great measure to the fact that this portion of the new establishment is a combination of ancient and modern work—that is to say both the architect and builder have been severely handicapped in the obligations laid upon them to leave exposed to view as much as possible the extensive and interesting discoveries of the remains of the Roman bathing system, acknowledged by authorities on the subject to be the finest hitherto discovered in England. The suite of baths on this floor are reached either by a wide corridor running from the central hall, or by a staircase, which latter method of descending is rendered interesting, since it is erected over the old Roman hypocaust, and is so arranged as to enable the visitor to have a complete view of the remains beneath. Descending by way of the corridor, the first to which we come, opening out from this corridor, is No. 38, a reclining bath and dressing room, with a floor of incised tiles, filled in with composition, a very pretty effect, and on the walls a diagonal pattern composed of silver grey and peacock blue tiles. The douches here are the same as we have already described in other baths, but there is in addition a crane lift, which can be used for lifting the patient into the bath either in a sitting or a horizontal posture. This bath has been especially designed for patients who have been ordered to remain in the water for a long time. No. 32 is a new dressing room, in the walls of which may be noticed some very attractive lustre mottled tiles, attached to one of the old baths which has been raised to a similar height as the others, and fitted with metal fittings similar to those already mentioned. The floor here is of white and black tiles, and in a recess attached to this bath are a needle and a Sitz douche, a lave, enema, etc.

We next come to Nos. 33 and 34, which are two dressing rooms attached to a deep bath situated between them. This bath will hold about 800 gallons of water, and besides having steps leading right down into it, has seats all round, and is provided with a hydraulic lift traveller and invalid chair for the use of invalids. In close proximity to this are four baths and dressing rooms (Nos. 36—39), so arranged that they can be let as a suite of baths for a lengthened period. They consist of a dressing room, the floor of which is of white mosaic and the walls of French grey and white, a deep bath with arrangements similar to those previously described, a second dressing room, the floor of which is paved with Minton's herring-bone tiles, and with incised Etruscan and white tiles on the walls, and also a room fitted with a vapour bath, either mineral or spring, needle and shower douche, with hot plates for lumbago.

Working our way round the well-lighted, airy, and spacious passages in a southern direction we cross the site of the hypocaust crushed under the previous building to enter bath No. 24, which consists of a Carlsbad reclining bath, with douche fittings as before, but with one extra spring douche, in order that a cold spray may be given to the patient, and free excess is given all round this bath in order that the patient may be massaed. There are several pieces of ancient Roman work to be noticed in this room, and a door in the west wall leads into another Roman Bath, 33ft. by 20ft., which is really beneath the roadway in Stall-street. At the extreme west of the corridor is a reclining bath and dressing-room, the bath being of the old form for the accommodation of visitors who prefer it to the new ones. This bath is fitted like the others, and in the chamber is a trap door giving access to the Roman work on the north which has not been thoroughly excavated, as the committee did not feel inclined to spend the money which would be necessary in order to make further investigations. For the sake of brevity we may as well say at once that in these baths and passages portions of the old Roman walls are constantly coming into view, and it is here that we have evidence of the immense difficulties with which the work has been surrounded, and which have rendered it so complicated and arduous. In order that the Roman remains should not be interferred with, the very walls remaining have been utilised, and the modern walls rest upon the old Roman foundations; but it is almost impossible to convey on paper the amount of trouble and care which this has entailed, though it will readily be appreciated by anyone making a thorough examination of this portion of the establishment. Turning to the right, upon leaving the bath last described and going towards the south, the chamber which we next inspect (No. 23) is a dressing-room with two different baths, that on the right being an Aix douche for one doucher, with all the arrangements for the douche, glazed screen, etc.; and the second is a reclining bath. Returning again into the corridor, and going up three more steps to enable the floor being placed at a level above the *labrum*, or small bath which was attached to the hypocaust, and which can be seen by raising large oaken doors. Baths No. 22 and 21 on this floor are Ragatz and reclining baths, similar to those already described.

Retracting our steps along this passage we pass an attendants room, similar to that described in the floor above, and this particularly completes the modern work of the building so far as the New Baths are concerned, with the exception of one or two vapour baths of box-like structure, in which a patient may take his seat and have the whole of his body, with the exception of his head, for which an opening is specially provided at the top, subjected to the action of the vapour that rises in full volume direct from the springs beneath, while there are also various means supplied for applying the vapour in other ways. Brief as the foregoing

description is it will answer the purpose of conveying to the mind some idea of the character of the baths and the various uses to which they are adapted. We may add that the main pipes carrying the water over the bridge in York Street from the engine house to the new baths, are large enough almost for street mains, but they are nothing compared to the interlacement of smaller pipes, rendered necessary in order to properly feed the various appliances and instruments with which the baths have been supplied. Everyone will admit that the contractors, Messrs. Long and Son, have done their work well, especially under the difficult task of having to connect a new building with a very ancient one below, and albeit preserving its antiquarian features.

The festivities in honour of the opening of the baths did not end with the luncheon. After the departure of the Duchess of Albany, the Mayoress was "at home," and received her numerous guests. Also in the evening the Mayor and Mayoress held a reception at the Assembly Rooms, to which over 900 invitations were issued. This was enlivened by a concert of vocal and instrumental music. Arrangements were made, too, for the amusement of the people, and the aged poor of the town were entertained at a high tea, so that it was a day of general rejoicing in Bath.

Thousands and thousands of people visit the Continent annually in search of health. They go to Aix-la-Chapelle, Homburg, Wiesbaden, Neuenahr, etc., and many of them are ignorant that within a short distance of their own homes there are waters as powerful for their ailments as any on the Continent, whilst as for scenery and for comfort the English landscape, and the English hotel take the palm. Now that we have at Bath a thermal establishment equal to any on the Continent, we can with an easy conscience recommend our patients who require a course of treatment to give these baths a trial. The maim and the halt, and the rheumatic need not leave the confines of England to seek the doubtful advantages of the foreign cure.

THE CROONIAN LECTURE ON PREVENTIVE INOCULATION.

M. Roux, on behalf of M. Pasteur, delivered the Croonian lecture on "Preventive Inoculation,"[1] in the course of which he had necessarily to treat of the anti-rabic inoculation of M. Pasteur. In order that our readers may know what the exact and latest position of M. Pasteur is, we give the text of that part of the lecture in full relating to hydrophobia. We have italicised a number of lines, upon which we shall offer a short commentary, dividing the lecture into five parts. M. Roux said:

I.—"After all this work upon the prevention of fowl cholera, anthrax, and swine fever had been accomplished, M. Pasteur devoted himself to the study of rabies. When, in 1880, the study of this disease was begun in M. Pasteur's laboratory, the following facts concerning it were alone known: that it was an infectious disease; that the virus was contained in the saliva of rabid animals, and that it was transmitted through their bites. We knew also that the period of its incubation varied from some days to some months, and *here our definite knowledge of its pathology ended.* Many experiments, however, had been made on the subject, but two causes had rendered them especially difficult to carry out and their success uncertain.

[1] See *British Medical Journal*, June 8th, for full text of lecture.

"*Inoculation of the saliva of a rabid into a healthy animal does not always produce rabies, but often has no effect whatever.* Among animals susceptible to the malady, some only become rabid after such a lapse of time that the prolonged waiting, combined with the uncertainty of the results, puts the patience of the experimenter to a most severe test. *The saliva of a rabid animal affords an untrustworthy virus, because it contains a quantity of different microbes, which, when introduced under the skin contemporaneously with the virus of rabies, may prevent the development of this latter, and set up inflammatory processes originated by their growth.* The first thing to do, therefore, was to find some source of the virus of rabies which should be uncontaminated by other microbes. All the symptoms of rabies arise from the disturbance of the nervous system; hence the idea that in that system the rabic virus was specially to be found presented itself to the mind. The previous attempts made, however, to show that the nervous system of a rabid dog was virulent were unsuccessful, because the manipulations to which the nervous matter was exposed in order to inoculate it introduced into it those other microbes which it was essential to exclude.."

M. Roux is a trifle inaccurate about the pathology. It is matter of medical history that we wrote in 1878, and gave strong evidence of the proof of our position, "*that the phenomena of rabies depend on changes in the medulla oblongata and spinal cord, influenced by a specific virus, the modus operandi of which is still involved in obscurity.*" This is matter of little moment; so we pass on to the admission that "inoculation of the saliva of a rabid animal does not always produce rabies." This is what we have been hammering into the public for years. This is why so many persons escape. This is why M. Pasteur's 6,000 patients have escaped; and besides the untrustworthiness of the saliva, there are other conditions which account for non-infection, as protection from clothing, previous waste of saliva on other animals, individual insusceptibility, etc. "*The saliva of a rabid animal affords an untrustworthy virus,*" says M. Roux. But it is this saliva which gives hydrophobia; the saliva is the initial point in the history; the saliva is but too trustworthy on some human beings, under certain conditions. The dog does not leave in the wound "a bit of his brain or spinal cord:" he puts in his saliva. What does it contain? The saliva is the substance on which we want light; and to the saliva, which is the *materies morbi*, we shall have ultimately to return. The products, in the shape of the secondary or tertiary effects, have so far taken the place of the saliva. The saliva has been neglected, and even now we are told that "it is an untrustworthy source." M. Roux continues:

II.—"By inoculating with absolute purity from the spinal cord the brain or the nerves of an animal which had died of rabies, M. Pasteur demonstrated that the *true seat of the virus was to be found in the nervous system.* A portion of the nerve centres of a rabid dog injected subcutaneously into a healthy one will produce rabies more surely than the most active saliva. This demonstration enabled us to take a step forward in its study. The rabic virus being contained in the nervous centres, and the symptoms depending entirely upon that system, the idea naturally followed that the disease only shows itself when the nervous centres are attacked by the virus. Further, that the incubation period is governed by the time taken by the virus to travel from the point inoculated up to the cerebro-spinal axis, and for its develop-

ment therin. If, therefore, the virus be inserted directly into the nervous system, where it has to develop, the incubation ought to be shortened and the disease follow with certainty, because the virus can no longer be destroyed or diverted from its course during its long journey.

"Experiment has fully confirmed this theory, as may be seen from the record of the first dog inoculated by trephining, in which the incubation period was reduced to fourteen days. In fact, any dog inoculated under the dura mater with a little of the spinal cord or brain of a rabid dog takes rabies with absolute certainty, and within a period rarely extending beyond eighteen days. Thus we are delivered from the uncertainties belonging to subcutaneous inoculations, and from the wearines of a long incubation period. After this experiment, the study of the disease went rapidly forward; it was proved that the virus existed in the nerves, and that by that route it travels from the original wound to the brain and spinal cord, and also that it can in some cases be conveyed by the circulatory system. It will be seen, therefore, that the manifestation of rabies may be varied, as the manifestations of the disease in the beginning will depend upon the particular region first encountered by the virus; and, finally, why it is that there are forms of the disease which until now were unrecognised, and which differ from the classic type. The operation of trephining is in itself harmless, when performed with proper antiseptic precautions. It is as successful with the rabbit as with the dog. If inoculation by trephining is performed upon a series of rabbits from the spinal cord or medulla oblongata of an animal which has just died, aud this process is continued with successive animals, we find that the duration of the incubation period, which was at first from fourteen to eighteen days, gradually diminishes. It becomes shorter and shorter as the number of passages of the virus increases, until, at the end of a hundred of the successive inoculations, it has gone down first to seven days, and finally to six. At that point it remains stationary, the rabic virus seeming then to have attained its maximum virulence for that animal (the rabbit), and the virus is said to be 'fixed.' It is from this 'fixed' virus that M. Pasteur obtains his vaccine for rabies by a process similar in several details to that already used for attenuation in chicken cholera, swine fever, and anthrax.

"If in a bottle with an upper and lower tubulure containing below fragments of caustic potash, and closed by a piece of cotton-wool, there is placed a spinal cord of rabbit which has served in a passage series of inoculations, this cord, which contains a quantity of 'fixed' virus, gradually dries preserved from dust and exposed to the contact of the air at a temperature of 25° C., care being taken to keep it at this point. If each day we take a small quantity of this cord, and inoculate on the surface of the brain of a rabbit, we shall perceive that as the cord becomes dry in the sterilised warm air so it loses its virulence. At the end of five days' drying, it will only be capable of killing some few of the rabbits who have received it. At the end of fourteen days, we find it absolutely innocuous after having passed the scale of gradually diminishing activity during the preceding days.

"Having now obtained our material containing the attenuated virus, if we each day inject subcutaneously into a dog a portion of the attenuated cord, crushed in water, taking care to begin the injection with the harmless fourteen days' cord, to go on on the second day with the thirteen days' cord, then the third day with the twelve days' cord, and so on till we reach the cord at zero, or, in other words, spinal cord unattenuated, spinal cord which is deadly—this dog thus inoculated will not die; nay, more, we may try him with the most active rabic virus inoculated into the brain, and he will remain perfectly well, though we know that otherwise intra-cranial inoculation produces rabies without fail. There is, therefore, positive proof that the injections of the dried cord have produced exemption from the disease. The experiment may be repeated as often as you please, but the results remain the same. Dogs which have subcutaneously received the series of cords commencing from the fourteenth day cannot take the disease either from the bites of mad dogs or in any other way. The exempt condition has been obtained in one fortnight.

"Usually rabies remains latent in a dog which has been bitten for a period generally exceeding one month. It might, therefore, be possible to profit by this long incubation period to give before its manifestation exemption from the malady. To elucidate this point, out of a number of dogs bitten by rabid dogs, or inoculated under the skin with rabic virus, some were preserved for control experiments, while the others were subjected to the preventive inoculation of the dried cord in augmenting degrees of virulence. Of these latter, not one took rabies; while of the former, a great number died with the characteristic symptoms of the malady. It was proved possible to prevent hydrophobia even after the bite." In this second part M. Roux goes over ground familiar to our readers, and we need not offer any commentary. Here we admit that M. Pasteur has shown us "how matter in the wrong place" can behave, how by changing conditions a virus is altered, and how soil has an effect upon it—how, in a word, the environment influences the virus. The experiments on the dogs before being bitten are very different from the experiments on man after being bitten; whilst the *modus operandi* must also be taken into account.

As we have repeatedly said, the whole of the laboratory experiments of M. Pasteur have been marked by the highest originality, and he has so juggled with the virus, passing it from one living vessel into another, that he has revealed manifold combinations.

III.—"Notwithstanding, however, the favourable results obtained upon animals, the application of the same method to man was undoubtedly a bold step. By what urgent solicitations and "medical advice" M. Pasteur agreed to take it is a matter of history. In July, 1885, the boy Meister, terribly bitten by a rabid dog, was the first to undergo the anti-hydrophobic inoculation. It is a noteworthy date, and marks an epoch, not only in the history of the laboratory of M. Pasteur, but in that of Science herself. I shall not dwell upon that which is well known; how, after this first successful attempt, persons bitten came to the laboratory from all parts, nor how, since then, each month about 150 persons come to obtain the anti-rabic inoculations. Some among you have been present at these inoculations, and have seen how the emulsions of dried—that is, attenuated—cord are prepared to avoid the introduction of any alien germs. The injections are made in the side on the right and left alternately, and are repeated during fifteen days. For ordinary bites the inoculations start with the fourteenth days' dried cord, and end with that of three days. For more dangerous wounds, those of the head and face, the number of inoculations is greater, and we proceed to the more recent cords more quickly, as it was soon discovered that these last-mentioned kinds of wounds required a more active treatment."

The history of the boy Meister and his protection are very remarkable. The boy was treated by eleven inoculations. Five of these were useless, so that he was really protected by six. The boy Meister was severely bitten; was not treated by the intensive method, which is now said to be required when the bites are severe. During the first period it was no wonder that objections were raised, because many statements were made which were not based on fact, and time has settled their truth. For instance, we were told that patients could come at any time after the bite—even a year; then this was narrowed down to six months; then it came down that even eleven days was too late, as in the case of Lord Doneraile.

IV.—"Since the commencement of the inoculations until now (March 21st, 1889) 6,870 persons have been treated in the Paris Institute alone; and among them many were very severely wounded. The proof of the rabidity of the animal which gave the bite has been furnished either by experiment or veterinary examination in 80 per cent. of the cases. The mortality among the persons bitten by indubitably-rabid dogs and thus treated is about 1 per cent., a very low rate if compared with that of 15 per cent. which usually follows the bites of mad dogs. It is scarcely credible that this extremely small number of failures should have given rise to such violent attacks against this practice; the most contradictory accusations have been brought against it. It was declared to be inefficacious, that its good results were obtained by the treatment having been applied almost entirely to persons bitten by healthy dogs, that the statistics showed *that as many persons had died in France of rabies since the introduction of M. Pasteur's system as before it.* This last assertion was made by badly-informed persons, who took for complete statistics documents allowed to be insufficient even by the very individuals who published them. The proof of the efficacy of the system is to be found by examination of those cases where the rabidity of the attacking animal was incontestably, because experimentally, proved; and above all, from such of these cases as were bitten on the head and face. In this latter class alone it is well known that the ordinary mortality is 80 per cent., whereas among those treated at the Pasteur Institute the mortality does not reach 4 per cent.

"Other adversaries asserted *that the treatment was dangerous*, and increased the probability of death, and thus found themselves confronted with the singular paradox of a dangerous treatment enormously diminishing the death-rate of the disease, and with their previous assertion *that the inoculations produced no result whatever.* These last opponents were furnished in support of their contentions with the violence of their assertions alone, as they had made no experiments whatever.

"Others followed, however, who contended that they had proved by experiment that the foundations themselves of the system were unsound, and that the anti-rabic inoculations could not give immunity to dogs. The fate of these pretended experiments is well known to you. They were shown on unquestionable authority—that of the English Commission charged with the inquiry into the inoculations—to be inexact. You know, gentlemen, of whom this Commission was composed, and in order to answer once for all the whole series of attacks it is only necessary to recall their judgment as embodied in their report—namely, that M. Pasteur had discovered *a method of prevention against rabies comparable to that of Jenner against vaccination.* The absolute nullification of fatal results among persons bitten by mad animals and treated I do not, however, believe to be possible."

The failures after the treatment, if calculated after the manner done by M. Roux, are not so very numerous, but if calculated by other processes, as that of Dr. Prosper de Pietra Santa, are very high. If Pasteur has treated 5,000 Frenchmen, then we must take fifteen per cent. as those who would be likely to contract hydrophobia, and then compare the mortality. Or if we take five per cent. the basis of the English Hydrophobia Commission we must do the same, when we shall also find the mortality high.

M. Roux objects to the criticism which has been made, and which may be summarised as follows:

(*a*) The mortality in France for thirty years—imperfect it may be—gave an annual mortality of thirty per year. This rests on authority of Tardieu, Bouley, and others. If we add to this another thirty for possible cases that may have not been reported we have sixty per annum; but we have no right to assume that the mortality ought to be sixty per year. We cannot alter the whole statistics of a country to suit M. Pasteur's statistics, but we must humour them. Now, since Pasteur began his work the average mortality has been up to thirty, and still more during the years 1885, 1886, 1887, and 1888, it has singularly kept up to this average!

(*b*) The treatment was pronounced as "possibly dangerous" by the Hydrophobia Commission. This refers to the intensive process, and, strange to say, M. Pasteur immediately abandoned it, giving support to this view.

(*c*) The non-intensive treatment was thought to be non-effective, because it produced no effects either on the place or on the system, and the term sterile was applied to it. It neither did good nor harm.

(*d*) The objection was raised that the dosage was not accurate or scientific. It was not measured. Eleven or thirteen inoculations were given at different times. On no theory can this be substantiated. The first injections have not time to do their work before they are followed up by subsequent ones. All is empirical. Hence, such men as Richardson, Peter, and Richards hit upon these blots in the system.

(*e*) The "too-late" theory will not stand. Marinet came under treatment within two hours; he died. If eleven days be too short, as in the case of Lord Doneraile, then it cannot be claimed as useful in the other cases that came over that date. We find in the "successful cases" patients whose bites date back to three weeks. Dissected by the rules of logic the theories and "facts" will not stand examination.

V.—"Nearly all the individuals treated who have succumbed to the disease developed it during the fortnight following the commencement of the inoculation, owing to the fact that in their case the virus passed probably by the blood-stream to the nervous centres immediately after the bite. Indeed, experience shows that the disease may break out from the first (?) to the eighteenth day after inoculation, and it also demonstrates that in cases of submeningeal inoculation it is extremely difficult to outstrip the disease, because the inoculation period is so short that attenuated cord inoculated subcutaneously and far from the central nervous system has no time to do its work. In such cases, therefore, of extremely short incubation period, it is possible that the treatment may fail. Fortunately they are rare, even where the bites have been received in the face. As for the few cases which succumb even where the treatment has been completed and has apparently had sufficient time to produce

its effects, it is extremely difficult to assign the true cause of such failures, but they may perhaps depend upon the special liability of the individuals in question.

"*The most remarkable point, however, in the whole discovery of this preventive inoculation against rabies is that it has been carried out, the virus itself being still unknown. Not only do we not know how to cultivate it outside the body, but, in allowing it to be really a microbe, we can but do so by analogy, for as yet no one has been able to isolate it.* Notwithstanding this, however, it is daily being attenuated and made to pass through the various stages of virulence. Unable to cultivate the organism artificially in flasks and tubes, M. Pasteur has been obliged to do so in the rabbit, and so easily and with such perfect regularity are these cultivations in the living animal performed that they are ready each day for use in the inoculations at a specified time and in the condition of genuinely-pure cultivations. *There is no stronger example of the power of the experimental method applied to medical matters than this one of the prevention of a malady the absolute virus of which is still obscure.*"

The last paragraphs are very remarkable, and absolutely support our views. The cases that died were "infected;" hence they died, bearing out what Jesse Foote said in his pamphlet on hydrophobia in 1793. Foote then said:

"1st.—That every medicine that ever was given for the prevention of hydrophobia had failed.

"2nd.—That although many who have taken medicine have escaped from infection, it ought not to be attributed to the power of medicine, because many have died notwithstanding the use of boasted specifics.

"3rd.—That of many who are bitten, *few are actually infected*, owing to the bite being made through clothing, and that they have escaped by the infecting fluid of the dog being wiped by the teeth passing through the clothing, or by some other fortunate circumstance.

"4th.—That as some medicine or other is indiscriminately given to everyone who is bitten, so every one who is not actually infected by the bite does well, as everyone who is actually infected by the bite dies; and as there are few instances of the latter in comparison with the former, thus it is that the reputation of a cure, by prophylactic or preventive medicines, has been supported, when in fact the safety or danger of the patient has been dependent upon another circumstance, which is whether he was, in consequence of the bite, actually infected or not.

"5th.—That if the patient were not infected he would do well, whether he took any medicine or not; but if he were infected it would be fatal, whether he took medicine or not."

M. Roux admits in 1889 that the nature of *the virus is unknown*, but he gives it as a proof of the value of the method that experiments can be and have been carried on, even in ignorance of what is being used. If this is the "experimental method," then what is the empirical one? or what is the difference? To inject a virus about which you know but little, to counteract a poison about which you know less, is not scientific: it is pure, unadulterated quackery. An apothecary was defined as a man "who poured drugs about which he knew little, into a body of which he knew less." What is the difference between the apothecary and the Pasteurian? The "experimental method" praised by M. Roux is the method adopted by Warner, Holloway, Sequah, and the school of empirics, and thousands and thousands testify to their success, but we decline to class them as scientists.

A FEW SCATTERED NOTES, BEARING ON MEDICINE.

There is a kind of knowledge which all men, more or less, acquire from the long and conscientious pursuit of their callings. It is a seemingly unsystematic knowledge, but it is of great value. I have called it "seemingly unsystematic," because in reality it is not unsystematic; the empirical and valuable facts of experience and practice being parts of as yet unread wide laws. This kind of knowledge is like to the slow discoveries and practices of savage tribes. Savage tribes, all over the world, had discovered the facts of fermentation, the great value of vegetable acids as part of diet, and the value of salt. In other directions, they had discovered that albuminoids in states of putrefaction, were deadly if introduced into the blood; for although they used certain plants with which to poison their arrows, yet it is more than likely that the poisonous influence of their arrows was due to the ferment-like action of putrefactive matter on protoplasm. Some tribes, indeed, used animal matters for their arrow poison. There is room for a work of great value to be written on "The Method and Order of the Evolution of the Early Habits and Knowledge of Savages." Of course, if you are in the society of, and in full sympathy with, the natives of Pekin, Benares, or Odey-poor, you will look upon the English as hardly removed from savages. The highest glory of the grandest city of the world is a vast feed and banquet. The good Mussalman or Brahman looks with horror on such a scene—with far more horror than that of a London or provincial alderman on the cannibal feast of the Solomon islanders! But after all, though the cultured Brahman, and son of Islam, may be horrified at the sight of the city feast, even though Bishops be present—just as the priests are present at the Solomon Islands festivals—yet it appears that the vast aldermanic feasts are evolutions of knowledge and practice in true method of nature. The succession of many different kinds of food, each in small quantity, and each having a considerable interval until the following and different article, affords another instance of the evolution of knowledge from experience, as earlier than our scientific explanations. Another fine instance of this truth is that of alcohol. One may almost say that all tribes and peoples have used alcohol; but science has only in our generation seen the fact that the modes of the alcoholic organic radicals carry their molecular continuity right up through the organic kingdom—fatty acids, aromatics, albuminoids, etc. The British alderman, too, has discovered—though the great teetotal doctors may demonstrate in the laboratory that alcohol arrests the digestion of food—that it none the less reaches the nerve protoplasm, heightens its energy, and really and greatly aids digestion. The farmers always look for their glass of brandy after a roast goose dinner. Such instances I hope may justify my presumption in dotting down some notes of one's own experience.

Digestion.—I am sixty years old, of sanguineo-nervous temperament; have lived some years in tropical countries; always temperate in food and drinks; smoked all my manhood; always an early riser. My habit now is to turn out at 6-30 a.m., and take an hour's walk before breakfast. I cannot attempt to describe the perfect joy of life and being I experience in my morning walk; my best ideas and thoughts come unsought for; it is a comparative daily "new birth." At eight I take a light breakfast of porridge and milk, followed by a slice of toast and butter and a cup

of tea. I no sooner commence eating than all the comfort and elation disappear, and I become as irritable as I was before joyous. Breakfast over, I am in intense misery —my head full and tense, the eyes straining at nothing; the whole body becomes revealed to me, flushed and fidgetty. I then retire to the garden, light my pipe, and solicit the action of the bowels. I always succeed in obtaining relief, though often costive. From the very moment of the first and main expulsion my irritability disappears; I am in an entirely different mood; the previous bursting fulness of skin and nervous system instantly disappears, and I am calm and quiet.

How does my simple breakfast transform my being—mind, feelings, and body—from joy to misery? Sir W. Aitkin ("Animal Alkaloids," p. 10) says that Bouchard " . . . finds that the poisonous activity of even healthy human fœces is very great, and a substance obtained from them by dialysis produced violent convulsions in rabbits." But this class of causes will hardly apply in my case, for it is only when I take in new food that the suffering comes on. I have always viewed the symptoms from the nerve side, that the nerve system of the whole body is involved, and contributes toward the reflex action of the expulsion. Though the sphincters and abdominal muscles are the more immediate agents of expulsion, yet the general nerve system is involved; and hence, in constipation we, as a basis of treatment, seek to invigorate the general health and system. I believe that it is a calamity to any young man when he begins the habit of smoking; but having acquired the habit, and to those especially who may have spent some years in India or the tropics, where full exercise and the evolution of vigour is hindered, a pipe smoked whilst soliciting a motion is a very great aid.

To continue my own case—after the relief of the bowels, I am well all day; but the pipe, for an hour or two, takes off the spontaneity of the mind and the power of study. At 2 p.m., I take lunch of tea and biscuits, or a very light rice pudding. At 6-30, I go out for an hour's walk, and when empty and in the fresh air, my intellect is again at its best; its spontaneity returns, and I can frame philosophical argument, or follow the continuity of deeper science or pathology. At 7-30, I dine, and do so with nothing short of dread. Immediately on eating, the mind becomes irritable, the skin all over the body seems to flush and to be fidgetty. The dinners which agree with me are boiled corned beef, or fish, or "finny-haddy." I also often dine on curry and rice, or a plain baked rice pudding, and which agree. I have proved the suitableness of boiled corned beef, and even of sailors' junk, to my case for over thirty years. I can also enjoy a dinner of boiled onions, or fried onions, and both agree with me. Pickled onions, and plenty of malt vinegar on my vegetables, agree well. Since reading Sir W. Aitkin's "Animal Alkaloids," I have thought whether or not my case is somewhat allied or parallel to the following:—"Some time ago, Dr. Lauder Brunton pointed out the resemblance between the languor and weakness which occur in many cases of indigestion, and the symptoms of poisoning by curare, and drew attention to the probability that the languor was due to the effect of poisonous substances absorbed from the intestine" (*op. cit.*, p. 27). In those cases of "indigestion" which have "peculiar symptoms—namely, of a sense of weight in the arms and legs, as if they were lumps of lead, . . . recent researches . . . render it very probable that peptones are the poisonous agents in these cases—a conclusion confirmed by Dr. Lauder Brunton's observation that 'the weakness and languor are apparently less after meals consisting of farinaceous food only'" (*op. cit.*, p. 26). I have notes of hundreds of young people, phthisical and pre-phthisical, who have told me of their almost passion for onions and salted meats, and that such foods agree with them. For many years I have usually prescribed muriatic acid and quinine for indigestion. It is quite rare for the patients not to say that they are greatly benefited.

The importance of acids in our diet has perhaps not been sufficiently considered. In India I have had native women clinging around my legs, and beseeching for limes and tamarind. If you issue a week's ration of pickles and vinegar to a "mess" of eight Irish peasant girls, they will eat them right off at once. When I see good results from muriatic acid in cases of indigestion, I am conscious that the therapeutic action is one of infinite complexity. The explanation will probably fall within the range of those vito-chemical studies on the animal alkaloids, etc., which have been opened up in this country by Dr. A. M. Brown, Dr. Lauder Brunton, and Sir W. Aitkin. Can it be that muriatic acid, taken after meals, or lemon juice, lime juice, tamarind, etc., taken with and after meals, may arrest the evolution of poisons out of the albuminoids of our food? How does lemon or lime juice cure the chronic dysentery and diarrhœa of natives of India? Many hundreds of times I have seen the natives of India improve and get well of old dysenteric diarrhœa under the free use of lemons and limes. In vain are the astringents used in such cases, but limes will often cure. How? To say that the native is scorbutic is no answer. We want to know the nearer vital mechanism of the action of the vegetable acids, etc. Does the all-essential salt of our diet also have a like effect? Is it from the action of the salt on the animal tissue that corned beef agrees with so many constitutions, where fresh meat is followed by indigestion? The ration of salt to natives of India, when fed by Government, is one ounce a day. Natives will consume a large amount of salt, if they can get it. It seems likely that the capital effect of Carlsbad, Fredrichshall, etc., when given far short of purgation, may be due in part to the common salt which they contain. Have these facts of practice any correlation with the arrest of the evolution of poisons in the intestines, stomach, etc.?

Costiveness.—I constantly have noticed, during the past ten years, that I am painfully costive during easterly winds. This is not to be explained by any easy hypothesis of evaporation. I have lived in the interior of continents, in tropical and sub-tropical latitudes, and which were subject to terrible hot winds. The wet and dry bulbs used to register a difference of 16° Fahr., but I did not suffer from costiveness. I think that the explanation must be sought in that, over fifty years of age, the pan-cellular vital energy is less evolved out of my protoplasm than of yore; and that in some way, not yet capable of expression, the east wind exhausts my vital organic energy. Every function of the body is, in a very great degree, dependent on, and correlates with, other functions. Mental shock has precipitated those poisons out of protoplasm whose results are cholera and yellow fever. Sudden diarrhœa, and the evolution of horribly putrescent gases, often follow mental shocks; and east wind in 50° north lat. is, in some way or other, a shock to the exquisite equipoise of the essential correlations on which health depends.

Alcohol.—There is no body in nature of greater interest than alcohol; it is the first product in the splitting up of

the molecular bonds of the carbo-hydrates; it has an absolute molecular continuity with a large proportion of the matter of which living plants and animals are composed. There is an *à priori* presumption that it must be a most powerful agent over protoplasm, a conclusion which is fully borne out by the experience of mankind. Our difficulty in practice is that nature in health and in disease is so complex and cosmic in her correlations, and these correlations are so unknown to us, that we are ignorant of the precise occasions when we may apply the molecular energy of alcohol wisely and fittingly.

We may not be disposed to fully agree with Dr. C. B. Klunzinger when he says of the Copts of Upper Egypt:[1] "He never tastes his evening meal until his mind is clouded by the vapours of this water of life, which he prepares for himself from dates. To this spirit alone he owes the rotundity of his body, and perhaps the existence of his race, which would otherwise have died out long ago under the regimen of peas, beans, and fish, without fat or butter. . . ." But we cannot ignore the fact of the use of alcohol by most of the races of mankind. Whatever evils may result from the use of alcohol, its almost universal use must indicate not only some great power, but also some good. There is, however, no social phenomenon in this world so sublime as that of Islam in its abstinence from alcohol.[2]

But I am viewing alcohol purely as a medicine, and not from the grand religious and social aspects of Islam.

One of the worst features in the history of the medical mind, in the past and present, is the practice of reasoning from "affirmatives." "A few times hitting countervaileth many times missing" (*Bacon*). It must always be a distress to thoughtful minds to hear and read positive assertions on the cure of cases, by this and that drug, and to no drug do these remarks apply with more force than to alcohol. I know that alcohol has a deep molecular continuity with protoplasm, and I hold a vague and approximate hypothesis that alcohol is capable of arresting the catabolic devolutions of protoplasm into "poisons;" but such an hypothesis would not carry me into the heroic administration of brandy in typhoid.[1] Such a practice would not scientifically flow from the hypothesis, even if the latter had much of truth for its base. Unlimited scepticism in therapeutics is as unwise as are the baseless assertions of our supposed "cures." But in reference to alcohol, I have been constrained to hold that often, when freely taken, on and at once after, chill, it has warded off both inflammations and fevers. How it acts thus science does not yet reveal. We may, however, ask hypothetically, Does it arrest the devolution of protoplasm into poisons? Does it act by exciting the polarity and energy of the ultimate molecules? Could we but work out the vital mechanism of the action of alcohol on living protoplasm, we should be on the method of all other therapeutic actions.

In my own case, although I enjoy the moderate use of wine and other forms of alcohol, yet in the after stages—say six hours after—my system is painfully irritable. I have given up its habitual use for so many years that I have lost all desire for it. Nevertheless, I take it now and then, as a medicine, and am compelled to hold the opinion that it is a medicine of unsurpassed value, *e.g.*: Two winters ago I went out at 11 p.m. to post a letter across the street, with only a thin coat on. I fell in with a man who was in an extreme degree "leg-drunk." He made constant endeavours as he went on the road to cross and recross, and falling repeatedly with extreme violence flat on his abdomen and chest. In that position he would lie for a minute or two motionless. For over an hour I followed and watched him, until I found the police and saw him taken to a place of safety. I was shivered and cold "to my very bones;" when I reached home my abdomen was extremely distended. I felt that I was going to be ill. I drank two stiff glasses of hot whisky and water; felt the distension and shivers subside; enjoyed my pipe and book, and was all right next day. Many years ago I was sent down to report medically on a district of the Schawn River, Trinidad, West Indies. It was a notoriously sickly region. I left Port of Spain by steamer at about 7 a.m. The negroes who took me off the steamship with their boat, at the mouth of the river, managed to ground in the mud banks, so that we did not really enter the river until about 6 p.m. In the meantime, repeated showers from the mountains had wetted us, and we were as often dried by the blazing sun—conditions altogether admirably adapted for the evolution of fever. A short distance up the river I saw a wooden shanty, and in the window recognized the open hand and yellow label of Allsopp's pale ale I thoroughly enjoyed a quart bottle of that drink; proceeded on to the sugar estate to which I was bound; stripped and

[1] "Upper Egypt: Its People and its Products." London. 1878. p. 90.

[2] "Mungo Park, in his travels seventy years ago, everywhere remarked the contrast between the Pagan and Mohammedan tribes of interior Africa. One very important improvement noticed by him was *abstinence from intoxicating drinks*. 'The beverage of the pagan negroes,' he says, 'is *beer and mead*, of which they often drink to excess; the Mohammedan converts drink *nothing* but water.'"—("Park's Travels," chap. ii.)

King Cetewayo, of Zululand, spoke thus to a deputation from the British National Temperance League, which had waited on him when he was in England: "I can only say that, as a nation, my people are, so to speak, abstainers; or, at all events, they are not accustomed, nor do they as a people partake of spirituous liquors. . . . But I think that the right place to shut the door is the side from which the spirits come. It is no good my shutting the door on my side, for I have no distilleries. But I think the proper way would be for the Natal Government to assist by placing restrictions upon the introduction of spirituous liquors into my country."

"The Rev. A. Day, of the Lutheran Mission in West Africa, with pathetic indignation, says 'The vilest liquors imaginable are being poured into Africa in shiploads from almost every quarter of the civilized world. On one small vessel, in which myself and wife were the only passengers, there were in the hold over 100,000 gallons of *New England rum*, which sold on the coast for one dollar a gallon in exchange for African produce."—(Quoted from "Christianity: Islam and the Negro Race." By Edward W. Blyden, LL.D. London: Whittingham and Co. 1887.)

The late Dr. Blyden was a negro of pure blood. His work, above quoted, indicates a mind of extraordinary power, wide grasp, keen sympathies, and just judgment. The book will enlarge the mental horizon and concepts of those who may have the privilege to read it.

[1] One cannot but be startled at the difference of practice in fundamental matters. Dr. J. Curnow, at King's College Hospital, gave 310 ounces of brandy and fourteen pints of champagne to one patient in typhoid. To another case of typhoid he gave two gallons, three pints, and eight ounces of brandy, and twenty-one pint bottles of champagne (*Lancet*, January 1st, 1887, p. 11). On the other side, the London Temperance Hospital gives capital results of the treatment of typhoid without alcohol. Statistics of results from different hospitals are about valueless for deciding such questions. There is no *à priori* ground for not giving alcohol. Alcohol is that body in nature most near to carbohydrates; it is the most assimilable of all bodies. But, besides, it has a special power over, or correlation with, protoplasm. That it heightens the energy, mind, senses, feelings, and functions, proves that it affects the modes of the ultimate protoplasm and cell-contents. Granting that alcohol can temporarily arrest the catabolism of protoplasm after chill into poisons, would it follow that its administration in protracted typhoid would be based on the same principles?

had a good shampooing by East Indian natives; took a glass of rum and water, and was perfectly well.

A review of one's experience will recall many cases of men in the prime of life, and in *apparent* perfect health, whose fatal illnesses commenced with rigor. Chill, or rigor, is by no means a simple thing, nor can the subsequent congestive pneumonia, pleurisy, or cardiac affection be explained by any mainly mechanical theory. "Chill" may involve, in certain cases, a devolution of protoplasm, and the evolution of poisons within the ultimate molecules.

Chill or rigor seems to be a fundamental fact in pathology. It is the first recognizable stage of many fevers, of inflammations, of febro-inflammations—such as epidemic or sporadic bronchial fever, epidemic pneumonia, cynanche tonsillaris, herpes, etc. Rigor often ushers in fatal cases, to which no name can be given—*e.g.*, I have seen rigor followed by irrecoverable disturbance of cardiac function, without inflammatory signs; by slight pneumonia at apex, extreme vomiting of bile during many days, slight delirium, drowsiness, and death. No localizations explained the symptoms or fatal result. Rigor is the first recognizable sign of "blood-poisoning" (so-called) and its terrible resultant series after parturition. Rigor ushers in bronchitis, pneumonia, pleurisy, etc., whose deeper pathology is related to that of fever. We are entitled to advance the hypothesis that rigor indicates a vito-chemical change in the modes of the ultimate protoplasm, and that such change is recognized and made manifest in the system, by and through the fundamental irritability of protoplasm, and by its subsequent higher nerve differentiations. That alcohol can under certain conditions, and at certain times, arrest the catabolism of protoplasm into other modes (poisons), is thus both consonant with the facts of observation and with vito-chemical theory. But the fatal or potential rigor, which is followed by so many different diseases (so-called), implies a prior state of unstable equilibrium of protoplasm, or a lower mode of its energy—*e.g.*, I have rounded the Capes of Good Hope and Horn, say thirty times, both in winter and summer. I never clothed up heavily, and cared nothing for drenchings by the tops of the mighty waves, which dashed on board. But I never took cold. I have carelessly slept through the tropics, on the stern lockers, with the stern-ports open, and never took cold. But now if I get in the slightest degree damp, or feel the slightest draught of air, I get a violent and persistent sneezing, which is followed by catarrh. I know that were I to take a voyage again, I should enjoy at sea my old immunity from catarrh. I refer to my own experience, but it applies generally. The system, at sea, does not take cold. There is a popular saying that "Salt water wettings never give colds." Whether sea water has any potential difference in its correlations or power of conduction to the energy of the body than has fresh water, or whether the powers of resistance to disease are greater at sea, we cannot decide; but all who have been much at sea, and who have had grave duties, will know that the system experiences at sea, both in mind and body, an energy and elasticity very different from the tamer modes of shore life. These examples will serve to point to the major factor of most diseases—viz., the recurrent unstable equilibrium of protoplasm, which makes the rigor a potential power toward disease.

It seems just to hold the hypothesis that alcohol, taken sufficiently early and in sufficient amount, will often arrest the devolution of protoplasm into poisons. I think that I have seen exhausted and worn women who, after parturition, were developing into rapid and irregular pulse, slight delirium, sleeplessness, and a grave malaise, saved by the free administration of alcohol. I formed hypotheses in such cases that the alcohol had arrested the catabolism, or reversion of protoplasm, into poisons. But here I must recall Bacon's caution of the danger to truth of reasoning from "affirmative instances." M.D.

SOME QUACK REMEDIES.

By an Analytical Chemist.

In the course of our professional visits, and especially in hastily opening drawers and cupboards in search of something or the other of which we have urgent need and usually find there, we come across bottles or boxes which we glance at with a half smile, and then overlook with diplomatic presbyopia; for they are quack remedies and nostrums of which our patients of the better class have usually grace enough to be ashamed, and yet the weakness to almost believe in. I have lately confiscated—*con permiso*—a few of these and analysed them with the aid of microscope and test-tube, and the results are from their grotesque absurdity, worth (shall we say) pillorying. "Warner's Safe Cure" I find to be a tincture of the two wintergreens, *Pyrola umbellata*, a remedy for renal troubles described in Christison's Dispensatory of some years ago, but long since relegated to the limbo of feeble inefficiencies; and of *Gaultheria procumbeus*, with a little glycerine. It would be harmless, but the "cure" contains so much spirit (rum?) that it would do serious mischief in true cases of Bright's disease, and is so pleasant to take as a dram that I suspect that is its chief attraction. The water-bath residue deflagrates, from the presence of nitrate of potassium, a collateral proof that it is a tincture of the plants, and not merely spirit flavoured with the essential oil of the latter.

A couple of "Holloway's Pills" yielded nearly equal parts of Cape aloes and potato starch, with a little powdered licorice root, the latter ingredient giving me little trouble in its identification. "The Ointment" I have not seen a sample of. "Beecham's Pills" are Cape aloes and potato starch again, pure and simple, and, as the striation of the latter is obliterated, the mass must be rolled out after heating. One pound of it would cost something less than sixpence and would make about twelve dozen boxes, worth "a guinea each," and although they are generously given away for a shilling, we can understand how the artistic advertisements are paid for.

"Mother Siegel's Syrup" is aloes dissolved in treacle. South Africa seems to be the happy hunting ground of the quack; all the pills are Cape aloes with something to harden it. Morrison used cream of tartar, but potatoe starch is now preferred. "St. Jacob's Oil" is a solution of camphor in oil of turpentine, with a few drops of oil of cajeput, and some colouring matter. "Elliman's Embrocation" contains four parts of dilute acetic acid, two of colza (?) oil, one of turpentine, and, I believe, one of mucilage; but I had only a single teaspoonful to experiment upon.

"Steedman's Teething Powders" are a mixture of one part of calomel with five of wheat starch, and a trace of opium, enough, however, to yield the microscopic proof, and the meconic acid reaction in a single powder. "Clarke's Blood Mixture" is a solution of iodide of potassium in coloured and sweetened water, but there was so little left in the bottle that I could not—without more trouble than it was worth—determine the quantity. "Eno's Fruit Salt" is

our old friend the seidlitz (Seignette's) powder with a little sulphate of magnesia and sugar.

Another article which is turning the most inoffensive illustrated papers into hideous pitfalls is "Brooke's Soap," which is ordinary soap with about one fourth its weight of a fine, but very hard, powder, which the polariscope shows to be crushed flint. Its use will be greatly to the advantage of the manufacturers of tin ware and plated goods. "Pear's" is a resin soap dissolved in spirit during its making, mixed with sugar, and, I think, a little castor oil. An excellent detergent for any but delicate skins.

"Tamar Indien," a confection of senna in a very convenient form. "Minns's Fire Grenades" contain three ounces of common salt and one of sal-ammoniac, dissolved in water. I have only this morning came across the absurdly named "Salt Regal"—if the deviser had only had Latinity enough to call it Sal Regalis!—itself only "Eno's" and the older seidlitz again, but with the ingeniously trifling addition of a trace of permanganate of potassium. I find that one tenth of a grain of Condy's crystals added to a dessert-spoonful of seidlitz powder gives a snow-white saline, and yet a lovely pink colour to a pint of water, and is identical with the last new specific for every ailment, from flatulence and heartburn to cholera and diphtheria! This, however, is all in the way of trade, and unblushing mendacity is the primary element in the art of puffiing. But, as anyone with the most rudimentary knowledge of chemistry would detect the trick in a moment, and the mere tasting of the weakest solution of the permanganate would show that only the most inert trace could be used as a colorant, what must we think of the distinguished analysts' testimonials? The first is an admirable specimen of what is said to be the chief use of language: the G.O.M. himself could not have written as many words with less meaning; the writer of the second commits himself to a statement which is utterly unjustifiable, and all three will influence the beliefs of the ignorant people who buy quack remedies. Truly "*Veritas vel mendacio corrumpitur vel silentio.*"

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

Creasote Treatment of Tuberculosis of the Lungs—Multifarious ways of applying Ichthyol—Chromic Acid against Sweating of the Feet—Hydracetin, the pure Pyrodine—Naphthalin in cases of Typhoid Fever—Agaric Acid.

Dr. E. Holm, of Greifswald, publishes in the *Therapeutische Monatshefte* the results of his extensive experience of the *Creasote Treatment of Tuberculosis of the Lungs.* Creasote forms a very powerful antiseptic and germicide; and it is therefore only natural that it should be recommended to combat a disease which is undoubtedly of bacillary origin, and which ranges within the wide class of infectious diseases. It is impossible to give separate accounts of all the different cases which Dr. Holm treated with creasote; but it will be interesting to hear the summary report of his cases, and the conclusions he drew from a very extensive use of the drug.

1. Creasote is best prescribed in the form of gelatine capsules, or in combination with tinct. gentian. Both forms were mostly given without the slightest discomfort arising, if the precaution was observed to administer the drug after each meal, and to commence the treatment with small doses. Sometimes the appetite was even improved. Patients were soon accustomed to the peculiar taste of the remedy, and never was the taste a reason for its continuous refusal. That the patients should long for it with eagerness, after they have taken it for some time, has been stated by many authors, but could not be confirmed by Holm's cases.

2. Creasote has no influence whatever on the diarrhœa caused by tuberculous intestinal ulcers, nor did it improve any existing constipation.

3. Abatement of temperature by the action of creasote is questionable.

4. In twelve cases the decided improvement in the conditions of the patients was undoubtedly and solely due to creasote. In the remaining eighteen cases (thirty forming the total of the cured and improved cases) the success was conjointly due to creasote and to the favourable change in the outer conditions of the patient, he being removed from unhealthy localities, and placed under the wholesome *regime* of a well-managed hospital. The first twelve cases, however, had been in such good hygienic conditions before transference to the hospital, that the improvement cannot be accounted for by the change of outer circumstances.

5. Admixture of streaks of blood to the sputum was favourably influenced by the creasote, as such traces of blood completely disappeared, the sputa at the same time becoming more scanty. The effect of creasote in cases of real hæmoptoë could not be properly studied, as in all such cases other remedies and measures were conjointly employed.

6. Bronchial secretion and cough gradually lessened; the sputa persisted in containing tubercle bacilli.

7. The effect of the drug was proportionate to the quantity of creasote introduced.

8. In far advanced cases of pulmonary tuberculosis, the administration of creasote is totally inefficacious.

9. While in incipient and in such chronic cases where no great destruction has taken place, its use is greatly to be recommended.

Dr. Holm availed himself of the following formula:

℞ Creasoti.
Tinct. gentian.
Spirit vini rectif.
Vin Xeres q. s. ad colat.

M.S. One tablespoonful to be taken two or three times a day in a wineglassful of water.

℞ Creasoti.
Æther acet.
Tr. aromat.
Syr. simpl.
Aquæ dest. q. s. ad.

M.S. One teaspoonful three times a day in half a tumblerful of water.

℞ Creasoti.
Tr. gentian.

M.S. Five drops to be taken three times a day in a tumblerful of milk, the dose to be increased gradually.

The *Therapeutische Monatshefte* contains two interesting and independent communications on the therapeutic *value of ichthyol.* Dr. von Hoffmann and Dr. Lange, of Baden-Baden, have for the last three years extensively prescribed and applied ichthyol in their private practice, and at the out-patient department, which was largely frequented by an

urban public, as well as by people from the surrounding country districts. With regard to the internal administration of ichthyol, they recommend pills and capsules fulfilling all the requirements of a refined taste; while for ordinary practice, appropriate corrigentia and vehicles may easily be found by referring to the chemical and physiological properties of ichthyol. Occasionally, but very rarely, patients are met with who *bonâ fide*, and after deliberate trials, energetically refuse to take the remedy. They are the same patients who also cathegorically object to cod-liver oil.

Generally speaking, ichthyol will excel in all cases of abnormal formation of gaseous products of the intestinal tract. Patients who are much troubled with "winds," and who ascribe all kinds of nervous complaints to the said slight disorder, often not only exhaust the physician's patience, but also the number of drugs available for this ailment. Such patients will derive great benefit from ichthyol. Also in cases of gastric and intestinal catarrh, ichthyol is very reliable. Its use in the out-patient department, and in all cases which are not constantly under the control of the physician, is greatly facilitated by its being non-irritant and non-poisonous. Dose and form of prescription have to be shaped according to the requirements in each case. Patients suffering for years from rising of gas after meals, and also patients who only suffer from the effects of temporary abnormal fermentation in the stomach, will be cured by a single dose of ichthyol given in a large quantity of water.

In some country and mountain districts there exists a kind of scrofulosis which is not caused by poverty, bad dwellings, insufficient food, but by an irrational system of nursing, want of cleanliness, and over-feeding. Such children present swollen lymphatic glands, all kinds of eczema, chronic inflammation of the eyes, flatulence, and copious stools of characteristically repulsive smell. Formerly it was customary at the clinic of Greifswald to treat such children with repeated baths, washing of the skin with carbolic or corrosive sublimate, or creoline soap, and an occasional single dose of calomel, repeated perhaps once a week. Now such patients take a mixture of ichthyol, alcohol, and spirit æther, āā. One drop of this mixture is twice given to a one year's child, two to a two years' child, etc. Already, after the second day, the change is very remarkable: flatulence and repulsive smell of the fæces have gone, and the children begin to show a more healthy appearance.

Ichthyol applied to wounds is an excellent hæmostatic. It also secures healing by first intention. The result is a fine, hardly-visible cicatrix. Therefore, wounds of the face, fingers, or hands, cannot be better treated than by making use of ichthyol. For treating burns and colds there is nothing equal to the beneficial action of ichthyol, which is equally spread over all affected parts of the body. Cases of acute rheumatic fever, with relapses and weakened constitution, do splendidly under ichthyol treatment (the remedy being given internally and externally), and a state of health is speedily attained, which never found its equal under any former treatment. The full action of ichthyol is best obtained by prescribing the above-mentioned mixture of ichthyol, alcohol, and spirit æther. The appropriate number of drops is diluted with a wineglassful of water, taken before meals, and followed by a cup of tea or coffee, or a plate of soup. Repeated analyses, indicating the percentage of nitrogen, confirmed Zuelzer's results. They also prove that Riedel's thiol, although resembling ichthyol in its external appearance, is devoid of the specific action of the latter.

Dr. von Brunn, of Lippspringe, reports on the very favourable effect of the ichthyol treatment in cases of *Erysipelas*. In consequence of the recommendations of such high authorities as Unna and Nussbaum, he resolved to try it in this particular disease. The governess of his own family was subject to erysipelas, and was first treated by external applications of salicylic acid ointment; but to no avail. The disease was progressing rapidly, when he began to paint the parts next to the affected regions with ichthyol collodium, ammon. sulph. ichthyolic æther āā 3 i. collod. 3 ii. Afterwards, also, the erysipelatous skin itself was treated in a similar way, with the effect that in the course of the same day the treatment was commenced, spreading was stopped, infiltration of the skin subsided, and evening temperature went down to 98.4° without the assistance of any antipyretics.

The Medical Department of the German Ministry of War recommends *Chromic Acid* as a cheap, reliable, and non-irritant remedy for the radical cure of disagreeable *sweating of the feet*. According to the official publication, the application is performed in the following way: A forceps, armed with some absorbent cotton wool, is dipped into a 10 per cent. solution of chromic acid. Then the soles of the feet and the adjacent parts of the toes are painted with it. In severe cases of feet-sweating, the painting is repeated every two or three weeks, in less severe cases every six to eight weeks. If open sores should exist, it is preferable to use first a 5 per cent. solution, which is followed by the application of the 10 per cent. solution as soon as the complete integrity of the skin is restituted. It happens sometimes, especially during the hot season, that the general perspiration of the body is greatly increased after the application. But this abnormal secretion passes off after one or two days, without causing any discomfort whatever.

Some time ago, Professor Dreschfeld, of Manchester, as will be remembered, published an interesting account of his clinical experience with a new antipyretic, called *Acetylphenylhydracin* or *Pyrodine*, but the author himself soon found out that the new preparation was not a chemically pure substance, but a mixture of several preparations. Professor Liebreich, who took the matter up, administered the substance to children and adults, the doses being half to one grain for the former, and two to three grains for the latter. Both authors are not entirely satisfied with the results, and it was therefore only natural that chemical industry endeavoured to obtain perfectly pure acetylphenylhydracin, or at least chemical compounds containing the essential complex atom:

$$N \begin{cases} H \\ C_2 H_3 O. \end{cases}$$

The latter was thought to play the most important *rôle* with regard to the antipyretic action of the drug, which suggestion seems highly probable, because the two well-known antipyretics—antifebrine and phenacetin—contain the same group of atoms.

Professor Guttmann has now quite recently obtained such a pure acetylphenylhydracin, abbreviated to *Hydracetin*. This new, pure substance represents a white, tasteless, and odourless powder, consisting of finest crystalline scales, which are soluble in fifty parts of water, readily soluble in alcohol. Guttmann publishes pretty favourable results with this new substance in eight cases of rheumatic fever, two

cases of sciatica, and eighteen cases of various febrile disorders. The dose administered never exceeded two grains, and the treatment was never continued for more than three days, showing that great caution is required with this new treatment.

Pyrodin has highly reducing properties; it reduces a solution of nitrate of silver, also an alkaline copper solution. It discolours permanganate of potash. For reason of this reducing property, pyrodin has been applied in cases of psoriasis, substituting chrysophanic and pyrogallic acids. It has one advantage over the latter acids—namely, not to stain linen or skin.

"*Naphthalin in cases of Typhoid Fever*" is the subject of a lengthy communication in the *Berliner Klinische Wokenschrift*. Dr. Schrwold, induced by Professor Rossbach, extensively experimented with the drug at the internal clinic of Jena. His experiments confirm Rossbach's statement that naphthalin is well worth trying in cases of typhoid fever. He, in this respect, contradicts the communications of Furbringer.

Dr. Klemperer reports to the Society of the Charité Physicians of Berlin on the action of *Agaric Acid* in cases of night sweating of consumptive patients. Agaric acid is prepared out of agaricin, the latter forming the active principle of *Agaricus albus*, a drug much used in former days. Agaricin, which was much in fashion some time ago, has again been given up by reason of its uncertain composition and strength. Klemperer administered pills, each containing one-sixth of a grain of agaric acid, and had great success with treatment, even in cases of most profuse sweating. One pill is given at six p.m., followed by others up to five, if one alone should not be found sufficient. The remedy does not cause any unpleasant after-effects. It is said to be efficacious, even in cases where atropin was of no avail.

Clinical Cases.

The following plates are taken from photographs shown by Mr. Edward L. Freer in his paper "On the Surgical Aspects of Rickets," which appeared in the Provincial

Case 1.—Ethel Price—On Admission.

Medical Journal, May, 1889. The results obtained in each case can be appreciated by comparing the children before and after operation.

Case 1.—Ethel Price, æt. seven, was admitted into the Birmingham Royal Orthopædic Hospital on October 11th, 1887. Before operation the child's condition can be seen from Photo 1. She was suffering from double genua valga (rachitic). McEwen's osteotomy was performed October

Case 1.—Ethel Price—Cured.

14th, and she was discharged from the hospital on December 10th, 1887, in the condition shown in Photo 2.

Case 2.—Arthur Hills, æt. four, double genua valga (rachitic); admitted March 10th, 1888. Osteotomy March 14th. The appearance of the child before the operation is seen in Photo 1. The child was discharged on April 28th, 1888, in the condition shown in Photo 2.

CASE 3.—Emily Sewel, æt. three years, general rachitis, lateral curved femora, and anterior and lateral curved tibia and fibula. It was considered inadvisable to attempt osteotomy, as it would have required so many operations, and instruments were applied. As can be seen from Photo 1 her condition was most miserable; but after patient treatment for four years with instruments only, she was brought into the condition now seen in Photo 2.

CASE 2.—ARTHUR HILLS—ON ADMISSION.

CASE 2.—ARTHUR HILLS—CURED.

CASE 3.—EMILY SEWELL—ON ADMISSION.

CASE 3.—EMILY SEWELL—CURED.

Reviews.

The Causes and Treatment of Abortion. By Robert Reid Rentoul, M.D., with an introduction by Lawson Tait, F.R.C.S. Edinburgh and London: Young J. Pentland.

This work is an extension of an essay "on the causes and treatment of abortion," which obtained a prize of £20 offered by Dr. Ward Cousins in 1886, and as to the value of the work we have already the opinion of Mr. Lawson Tait. "As an exhaustive discussion of a special branch of medical literature I have seen nothing better in the English language, and the clearness of its expression as well as the precision of its conclusions, place it far above the kind of productions with which we are favoured in most other languages than our own." Let us see in what way it has deserved this approval. The work is divided into eleven chapters as follows:—Definition and pregnancy, historical notice, the causes of abortion maternal, the causes fœtal, the causes paternal, criminal abortion or fœticide, abortion in plants and animals, the symptoms of abortion, diagnosis and prognosis, complications and sequelæ, treatment, besides an excellent bibliography, index of authors, and general index. In the historical notice Dr. Rentoul deplores the tendency of the age to regard fœticide as hardly a criminal offence, and, as he truly says, the profession should take the matter up for the moral tone of a nation can be sustained and elevated by the members of the medical profession. The various causes, apart from criminal ones, which leads to this accident are admirably described and leave little to desire, and as there are some excellent illustrations the text is made clearer. The complications, as is well known, are numerous: pelvic cellulitis, peritonitis, acute metritis, endometritis, salpyngitis, ovaritis, phlegmasia dolens, pulmonary and arterial thrombosis, tetanus, prolapse of the ovary, secondary hæmorrhage, may follow, all which conditions are fully described and appropriate treatment suggested. There is a very excellent chapter on fœticide, and it appears lamentable that Dr. Rentoul should be able to write "the multitude of drugs bought of the druggists, so that the buyers may bring on their periods must be legion; the frequency with which the uterine sound is used must also be a prolific source of evil. Women at present go from one hospital to another every so long, that some one of the staff may examine their wombs. Cases are known when such women have reminded the practitioner that he did not examine them in the same way that another medical man had. The uterine sound is a very powerful instrument of danger. Does its utility outbalance its harm. Cannot two well trained fingers get on well without it? The ordinary gum elastic sound, an instrument which allows a woman to procure abortion on herself and by her our help is well known. It is said to be an American instrument; but of this I am cognisant that it lies on an instrument makers shop counter for sale, and is often sold by him. I think lecturers on medicine and on diseases of women do not sufficiently impress on their students the danger of their in any way incriminating themselves by useing uterine instruments where there is the very slighest suspection of pregnancy existing." In the historical notice Dr. Rentoul has accumulated a mass of evidence which forces us to the conclusion that criminal abortion is on the increase even in England.

Ricord is reported to have said that the best treatment of syphilis is the preventive treatment, and foremost in that he placed continence or the avoidance of infection. The same may be said of abortion. Dr. Rentoul has very clearly laid down the causes, and here preventive measures must take first place, so far as the avoidance of all the conditions which lead to the premature expulsion of the ovum or fœtus. Dr. Rentoul has an excellent chapter on the proper treatment of threatened abortion and all the states which may occur in connection therewith, and we must refer our readers to the book for fuller details. We can confidently recommend this essay.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by J. Batty Tuke, M.D., and G. Sims Woodhead, M.D. Vol. i. Edinburgh and London: Young J. Pentland. 1889.

This is the first volume of a series of reports which it is intended to publish from time to time, and which promises to be a valuable record of scientific research. It represents part of the work done in the laboratory of the Royal College of Physicians of Edinburgh during the first year of its existence, and contains eleven original articles on scientific questions related to medicine and surgery. One feature of the laboratory which, on reaching the report, strikes us at once as most commendable, is that it is available for use by individual members of the professsion who can by means of it subject their pathological specimens to a scientific examination, for which they seldom have the needful appliances at their disposal. The notes on the equipment of the laboratory, by Dr. Woodhead, describe a variety of ingenious contrivances which show the care and attention to minute detail expended, but which are of direct interest to those only who are actively engaged in experimental research. Of more immediate concern to the practical surgeon is the article on the use of mercuric salts in solution, as antiseptic lotions, by the same author. It is here shown that corrosive sublimate dissolved in water is by no means the perfect antiseptic it has lately been adjudged to be; inasmuch as its intensely poisonous properties render it dangerous for general use; and in contact with proteids it forms insoluble albuminates which have no antiseptic value. The latter objection is in practice overcome by adding to the solution an excess of tartaric acid which prevents the formation of the albuminate; but this proceeding accentuates the former objection since the mercury being kept in solution resists the action of all the ordinary antidotes. Instead of a solution of the perchloride, Dr. Woodhead recommends a solution of the biniodide formed by the help of a slight excess of iodide of potassium. This solution, while less poisonous than that of the perchloride, is thoroughly reliable as an antiseptic, as the biniodide does not combine with proteids to form albuminates. It has the further advantage of not affecting instruments immersed in it. Dr. D. B. Hart's researches on the mechanism of the separation of the placenta and membranes during labour are chiefly of scientific interest. His paper is carefully worked out, and presents the subject in a new light. It is sad that valuable writing of this kind should be disfigured by an etymological blunder that a mere tyro at a public school ought to avoid. The writer repeatedly uses the word *deciduæ* as the plural of *decidua*, as if the latter were a noun of the first

declension, whereas *decidua* is itself the neuter plural of the adjective *deciduus*. We have heard the form *scybalæ* used in a similar way, in contravention of the fact that *scybala* is a neuter plural (from σκύβαλον). Such barbarisms should have no place in the literature of a learned profession. Dr. Bruce has carefully described a brain affected with congenital absence of the corpus callosum, and has added a collation of recorded cases in which a similar defect existed. Besides the light thrown by this case on the development of the brain, it is of value in connection with Professor Hamilton's view that the internal capsule is mainly composed of callosal fibres. If Professor Hamilton's view is correct, we should expect that where the corpus callosum is absent, the capsule should be sensibly diminished in size; but in the present case it was normal both in form and extent.

We can recommend the Report on the Air of Coal Mines, by Dr. Nasmyth, to all who are concerned with mining. The volume is embellished with numerous excellent plates, many of them coloured to represent alterations of tint.

T. R. Bradshaw, M.D.

The Causation of Diseases. By Harry Campbell, M.D., B. Sc. (Lond.). London: H. K. Lewis, 1889.

The object of this book is to trace out the ultimate causes of disease—not of particular diseases—but of diseases in general. We shall best demonstrate its aims and methods by giving a quotation or two:—"Having inquired into the causation of S. and E. separately, it now becomes necessary to consider these two vital factors in the mutual interaction of disease, for we have seen that disease is an abnormal interaction of S. (Structure) and E. (environment). It will be remembered that we first inquired into the nature of E., and that the last chapters were devoted to the consideration of the causation of S.; we found that S. was mainly the outcome of heredity, but that it was also influenced, though in a lesser degree, by E. Accordingly, we treated of the causation of S. under two heads. Under the one we considered the general principle of heredity; and under the other the influence of E. upon S. So that E. has had to be treated of in a two-fold manner. 1. As one of the two great vital factors. 2. As a plastic agent. We now cease to study the two great factors of disease apart, and proceed to consider their morbid inter-action remedy—disease." "Now can we in any way symbolize the relative share taken by S. and E. in the causation of disease? Let us suppose a given disease to be made up of eleven units, and let the share in causation taken by S. and E., respectively, be represented by any number from one to ten; it would be manifestly incorrect to assign the full number (eleven) to either, seeing that neither S. nor E. alone can constitute disease. Then, inasmuch as S + E = the disease, we may arrange the following table:—

* *a.* $S_{10}+E_1=11$
b. $S_9+E_2=11$
c. $S_8+E_3=11$
d. $S_7+E_4=11$
e. $S_6+E_5=11$
f. $S_5+E_6=11$
g. $S_4+E_7=11$
h. $S_3+E_8=11$
i. $S_2+E_9=11$
j. $S_1+E_{10}=11$
† *k.* $S_0+E_{10}=10$

* An individual in whom the disease burst out spontaneously.

† An individual in whom the largest quantity of specific pathogenisis is unable to induce the disease."

Further elaboration of, and various illustrations of the numerical expression of our thoughts are given throughout the book, and are intended to give those thoughts a precision which they otherwise lack. For instance:—"It may happen that neuralgia of the fifth nerve disappears after withdrawal of the offending tooth, in which case the causation may have been summed up as follows:—$S_6+E_5=11$. By removing the five units of causation we cure the disease. On the other hand, the neuralgia may continue unabated after the tooth has been withdrawn, when the causation would be thus represented:—$S_{11}+E_0=11$. Just such a case, however, may not unfrequently be cured by diminishing the pathogenic value of S. Supposing, for instance, the causation to be more or less accurately represented by the formula S_6+E_5, it will follow that, if by tonics and rest we can reduce the S_6 to S_1, the patient will be cured."

The above quotation will serve to show the methods adopted by the author. Whether the plan does serve to give precision may be open to question, and will be judged of differently by different minds. Those who revel in Spencerian metaphysics will be delighted with the way in which the subject has been worked out; the mathematical mind will also revel in the formulæ and symbols adopted; to many the problems of disease do not render themselves amenable to the jugglery of the metaphysician or to the accuracy of the mathematician, and to them the book will not be an attractive one. Those who read it carefully will find much well thought out food for reflection, as many of the most interesting problems bearing on the evolution of disease are discussed in detail, and surveyed from a comparatively novel standpoint. The last paragraph in the book is one which will tempt the reader to buy the volume and peruse it in detail:—"I am led, on *a priori* grounds, to conclude that malignant disease is due to peculiarity of both S. and E.—peculiarity of S. as already set forth, and peculiarity of E in the shape of a specific parasite."

R. Shingleton Smith.

Notes on Venereal Diseases. By H. de Meric, Surgeon to the French Hospital, London. London: Renshaw, 1889.

This book, the outcome of much experience, deals with the clinical questions associated with syphilis, and its treatment, and lays down very clearly the points of distinction between the two kinds of venereal sores—that which is, and that which is not, syphilitic. He says (p. 13): "I am sure it must have been a source of wonder to others, as well as to myself, that hospital patients do not often reproduce in their lips and in their noses, through the medium of their fingers, the simple sores existing in the penis. On the other hand what a slight contact will communicate syphilis from one person to another—kissing, drinking out of the same vessels, etc. This difference is still more clearly demonstrated by the germ theory, if we regard simple sores as merely the result of putrefactive inflammation, and syphilis to be caused by the absorption into the system through the syphilitic chancre of a definite bacillus." In considering the question of treatment, he asks, "How does mercury act in the disease?" His reply is as follows:—"Not only as a remedy, but almost as an antidote, by destroying the bacilli of syphilis. At the present time this assertion is mainly based on theory, but I think we may go still further and consider, or at least hope, that the period is not far distant when the duration of the specific treatment (*i.e.* the

administration of mercury) will be determined by the disappearance of the syphilitic bacillus from the patient's blood." A page or two further on he remarks that "it seems a sort of hard-and-fast rule that the treatment of primaries should be mercury, combined even sometimes with iodide of potassium; that of secondaries, the two drugs united; and that of tertiaries, iodide of potassium alone. This routine, though in the main based on sound clinical observation, must not be allowed to altogether influence the surgeon. He must always bear in mind that mercury is his sheet-anchor, whilst the iodide of potassium is but an adjunct." The book is a condensed epitome of clinical experience, not burdened by any abstract disquisitions or theoretical questions; it is well worthy of perusal by those who have to treat any of the varieties of venereal disease, either local or general.

R. Shingleton Smith.

The Diagnosis and Treatment of Extra-Uterine Pregnancy. By John Strahan, M.D., M.Ch., etc. (Jenk's Prize Essay of the College of Physicians of Philadelphia). Philadelphia: P. Blakiston, Son and Co.

In this essay of 125 pages Mr. Lawson Tait's name occurs over eighty times, so that it is not too much to say—looking at the references in the essay—that it could never have been written had not Mr. Tait previously also written. The following sentences in the book are remarkable:

1. "Lawson Tait has *perhaps* more experience of such cases than any man living, and more than any man who ever lived. The writer is inclined to agree with most of Tait's views on pathology, although Tait is evidently too dogmatic on several points in diagnosis and treatment" (p. 1).

2. "Although I have a very great respect for every opinion of Mr. Tait upon a subject he has made peculiarly his own, yet I do not slavishly follow whatever he may say, unless it is well supported either by himself (*sic*) or others" (p. 24).

3. "Tait is doubtless too confident in his own unique experience, and too sceptical as to the assertions of others. We must remember that after all he has *only* seen seventy-nine cases (published up to date of his new book, December 1st, 1888), and this number is far too small to permit of any dogmatism as to what can and what cannot happen in other cases. There can be no doubt, however, that he is right as refers to the overwhelming majority of cases, and we may safely accept his last opinion on the matter—viz., 'One might guess, but it is impossible to affirm; for one case we could diagnose, fifty would escape recognition'" (p. 24).

In reference to the first sentence, the word *perhaps* should be omitted, and then the sentence would be correct. The author confesses that he is disposed to agree with Lawson Tait's views of pathology. What other views could he support? We fail to find out in the book any evidence to show that Tait is too dogmatic, either as to diagnosis or treatment. The second sentence is a contradiction in terms, and the third may be classed in the same category. Both sentences illustrate what is seen through the work—viz., a disposition to use qualifying adjectives, or, in other words, to "hedge." He does not, save with a few exceptions, make clear his own opinions upon knotty points on which we really want light. This is particularly seen in the section "On Treatment of Extra-Uterine Pregnancy before Rupture, should a Diagnosis be made" (p. 72), where a considerable amount of doubling is gone through; and after pages of quotations, he comes to the conclusion which Lawson Tait had already laid down. In this section we have one of his disagreements with Mr. Lawson Tait. Mr. Tait, as we know, objects to killing the fœtus on many grounds, one being that it is immoral. This is is how Dr. Strahan treats this objection: "I will not waste words on the objection that killing the fœtus is immoral, as in the stage, of which we are considering the treatment, the chances of life for the fœtus are so poor that they cannot be much worse. The great majority die at rupture (with the mother, or by the operation to save her life). . . . I certainly do not see the immorality of killing the ovum before rupture." Mr. Tait, with his exceptional experience, clings to the old-fashioned law, "Thou shalt do no murder," and apart from all the other questions which underlie the subject of killing the fœtus, as the growth of the placenta, the dangers, etc., the right of the fœtus to a chance of life appears to us to be based upon justice. This may be a matter of opinion, but the terrible case of killing reported by Dr. Matthew Duncan should convey a very plain and salutary lesson. We must, however, leave controversial matter, and give our readers an outline of the book, as this subject is coming to the front, and a *precis* of our existing knowledge of extra-uterine pregnancy must be useful to every practitioner. To fully understand the subject, Lawson Tait's lectures "On Ectopic Pregnancy" should be read in full; then this compilation may be consulted. Dr. Strahan's essay is divided into two parts. Part I. gives the history and pathology of the condition, diagnosis, diagnosis previous to rupture, diagnosis from normal gestation, conclusions as to the diagnosis up to the period of primary rupture (during first three months), normal pregnancy mistaken for extra-uterine pregnancy, is the diagnosis of the variety possible before rupture? diagnosis at the time of and shortly after rupture, diagnosis after the shock of primary rupture is over, diagnosis about the viable period, diagnosis after full period of gestation and fœtal death, diagnosis of suppuration in an extra-uterine gestation sac, differential diagnosis, summary of the diagnosis. The second part is devoted to treatment, and is divided into the following sections: Treatment of early extra-uterine pregnancy, and when rupture occurs, treatment before rupture should a diagnosis be made; methods which have been recommended for bringing the pregnancy to an end, even in the pre-ruptured stage; treatment at period of primary rupture; resuscitation of patient after rupture; the operation for tubal gestation; treatment between primary or tubal rupture and the full period of gestation; treatment at the full period; the primary operation; vaginal extraction of the child. Dr. Strahan has evidently examined carefully the literature of the subject, and has brought together from the contemporary literature of England, America, France, Germany, the leading facts and theories on extra-uterine gestation. It lacks one essential—viz., individual experience, which detracts very considerably from the value of the author's own opinions.

Lectures on Bright's Disease. By Robert Saundby, M.D., etc. Fifty illustrations. Bristol: John Wright and Co.

The object of this book is not only to present within a modest compass the present state of knowledge on Bright's disease, but to give the author's views, as formed after

thirteen years' clinical and pathological study of the malady. Dr. Saundby has published many separate papers, in which he has given us sketches and suggestions; but in this book he has, as it were, crystallised all his work, and it may be taken as representing his more matured opinions. The book is divided into three sections:

Section I. deals with general pathology, and consists of seven chapters—albuminuria, pathology of dropsy, pathological relations of tube casts, cardio-vascular changes, pathology of polyuria, pathology of uræmia, retinal changes. All these conditions are clearly, but concisely described, illustrations being introduced where necessary to clear up the text, whilst at the end of each chapter is an excellent bibliography.

Section II. deals with the clinical examination of the urine, and opens with the following but too true paragraph: "Inspection of the urine is an ancient medical practice, which, for the most part, was until recent times a meaningless and perfunctory medical ceremony." Dr. Saundby would lift urine testing into a higher level, and his description will come as a revelation to those who have been content to carry on urine testing in a routine fashion.

Section III. deals with Bright's disease under the following headings: history, classification, etiology, general anatomy of the kidney, febrile nephritis, lithæmic nephritis, complications of chronic Bright's disease, treatment of lithæmic nephritis, concluding with an excellent general index. There is an excellent bibliography to all these chapters, and as Dr. Saundby is an accomplished German scholar, German literature is largely represented in this. The treatment of lithæmic nephritis is laid down as follows at chapter xv.: "We are all liable to try to do too much in the way of treatment," he says. "... If a patient suffering from chronic Bright's disease is in fair general health, and the discovery of the lesion has been made more by accident, so to speak, we should be careful to do nothing that would *worsen* his condition by over-vigorous treatment or too severe regimen, but should be content to relieve the symptoms of which he complains, if it is in our power to do so; while, at the same time, we endeavour to regulate his habits and mode of life in conformity with principles deduced from our knowledge of the etiology and pathology of his disease."

What these measures are the author then tells us in detail. Climate and hygiene, clothing, exercise, hot air and vapour baths, diet, are fully considered. Thus a dry, warm climate is recommended for the winter. The patient should wear woollen clothing day and night, summer and winter, in all climates. Hot air or vapour bath once a week at home; daily exercise should be encouraged, but violent exercise avoided; abstinence from butchers' meat, cheese, and all alcoholic drinks should be enjoined. Dr. Saundly enters into full details as to choice of residence, tell us what the patient should have for diet, etc. As a general prescription to fulfil the main indications of those cases where no special symptoms are calling for treatment, or contraindicate its use, a mixture containing sodium benzoate, and digitalis, may be employed.

℞ Sodii benzoatis ..... gr. x.
Tincture Digitalis ..... ♏ x.
Inf. gentianæ ad. .... ℥ j.
Sig. To be taken three times a day.

The bowels should be kept open by some laxative if they are at all sluggish.

℞ Euonymini ..... gr. j.
Ext. Aloes ..... gr. ij.
Ext. Belladonnæ ..... gr. ¼.
f. t. pil.
Sig. To be taken at bed time when required.

This is the general treatment, and we would refer our readers to the work itself for fuller details, which we cannot give in a review.

There are few diseases upon which the general practitioner is more frequently consulted than Bright's. Its recognition in the early stages is all-important. During late years, immense strides have been made in regard to diagnosis, pathology, and treatment; hence the value of a work of this nature, which gives, within a reasonable compass, all that is best in modern literature, supported at the same time by individual practical experience, so that it is a work which the conscientious general practitioner ought to have by him. We must congratulate the publishers on the excellent way the book has been produced.

Short Notices.

Tooth Extraction: a manual on the proper mode of extracting Teeth. By JOHN GORHAM, M.R.C.S.

THAT we have here a third edition of this manual, within a period of two years, is *primâ facie* evidence of its utility. It appears to be addressed principally to medical practitioners, a class of readers who have obviously found their account in the study of its pages. Dental surgery is a department which few of us have the opportunity of culti vating before we are called upon to "draw" teeth. All who may find themselves thus placed will find serviceable instruction and counsel in this little work. The names and arrangement of the teeth, at the several periods of life, are given in tabular forms. The instruments best adapted for extraction are described, together with special directions for the extraction of each tooth. The short section on anæsthetics in dentistry contains very judicious counsel in short space. W. B. KESTEVEN, M.D.

Deviations of the Nasal Septum. By GEORGE STOKER, M.D. pp. 24. 8vo. London, 1888.

THE deviations here dealt with are deflections, spurs, enchondroses, and exostoses. The conditions to be relieved are: "1. Obstruction to the free passage of air through the nose. 2. Extreme lateral displacement, due, as a rule, to accident, and causing great disfigurement. 3. Where some deviation which, though not actually obstructing the passage of air, causes catarrh or some reflex symptom." These deviations, Dr. Stoker points out, are not always externally evident, but may require a careful internal examination. For this purpose, a properly contrived speculum has been made, and is here described, together with instructions for its use.

Other instruments, which are also frequently required, are explained and illustrated by engravings. The various operative measures that may be called for are also fully described by Dr. Stoker. W. B. Kesteven, M.D.

On the Futility of Experiments with Drugs on Animals. By Edward Berdoe, L.R.C.P., etc. pp. 46 London, 1889.

This pamphlet is published under the auspices of the Society for the Protection of Animals from Vivisection. It consists of a review of the "Report" and "Returns," showing the number of experiments performed upon living animals during the year 1887, under licences granted under Act of Parliament. "These have been made, in the case of new drugs, either with the view of justifying the further extension of such remedies to man, or of enlarging their sphere of usefulness; in the case of some of the old drugs, with the view of inquiring whether their action is such as to justify their continued administration for the purpose for which they have hitherto been used. The experiments consisted chiefly of hypodermic injections, and were mostly of a painless character. . . . . Whether the latter statement is fact or not will be shown in the course of inquiry." . . . "The method adopted in these pages" by Dr. Berdoe "is to take the principal drugs and chemicals which are used in the practice of medicine, and compare and contrast their action on the different species of animals upon which they have been tried, both with each other and upon man." To this end the whole materia medica, in which these actions are most clearly shown, is laid under contribution with references to and explanations of their different actions as laid down by experimenters, British and foreign. The conclusion arrived at by the author may be anticipated from the title of the pamphlet and the auspices under which it is put forth. We would, however, take leave to quote the words of Sir Lyon Playfair, in his speech in the House of Commons on Mr. Reid's "Bill for the Total Suppression of Scientific Experiments upon Animals," as deserving of Dr. Berdoe's serious consideration: "The justification is that man's duty to man is greater than man's duty to beasts."

W. B. Kesteven, M.D.

Cremation and Urn Burial; or the Cemeteries of the Future. By W. Robinson. London, Paris, New York, and Melbourne: Cassell and Company.

In this profusely illustrated *brochure* Mr. Robinson points out the advantages that would result from the universal adoption of cremation. It is an exhaustive treatise on this subject. The general objections to the system are fairly discussed. The rules adopted by the English Cremation Society are well devised. The work is well printed, and the illustrations are exceedingly good.

Elementary Bandaging and Surgical Dressing, with Directions concerning the Immediate Treatment of Cases of Emergency. By Walter Pye, F.R.C.S. Third edition, revised and enlarged. pp. 208, small 8vo. 1889.

It must be assumed that this treatise has been found to have attained its purpose, which is to instruct dressers and nurses in the management of accidental injuries, and other cases of emergency. Within the short period of three years it has reached a third edition. We would venture to express our concurrence in this professional verdict. The directions throughout are concise, clear, and judicious; the illustrations precise, definite, perspicuous. Every surgical student, dresser, or nurse should have a copy of this little book at hand, or in the pocket.

W. B. Kesteven, M.D.

The Harveian Oration, 1888. By P. W. Latham, M.A., M.D. Cambridge, 1888.

This oration might be entitled the influence and mode of action of the pathogenic micro-organisms, and the author endeavours to shew that the pathological changes are produced by ptomaines quite independently of any bacterial action. R. Shingleton Smith.

Papers on Dermatology. By E. D. Mapother, M.D. London: Churchill, 1889.

This volume of a hundred pages consists of a series of papers on a variety of topics. Some of them more than skin deep. One of the most important, on the correlations of eczema and gout, strives to show that constitutional eczema depends on the gouty diathesis, and therefore should be treated according to the well-known therapeutic indications observed in that condition. A paper on the treatment of the syphilides is well worthy of perusal, but contains nothing new. The last essay gives an account of two little known Irish Sulphur Spas, Lisdoonvarna and Lucan. R. Shingleton Smith.

Pathological Report, 1887-1888, *of the City of London Hospital for Diseases of the Chest, Victoria Park, London, E.* By Sidney Martin, M.D. (Lond.), Assistant Physician to the Hospital, late Pathologist and Medical Registrar. Glasgow: printed for the Victoria Park Hospital, by James Maclehose and Sons, Glasgow, 1889. Folio pp. 33.

The diseases of which cases are here tabulated include phthisis, empyema, bronchitis, kidney disease, aneurism, Addison's disease, pneumonia, new growths, and cardiac disease. The cases of each of these have been arranged in tabular form, noting the several heads of age, duration of disease, heredity, complications, time of death, condition of the internal organs, with sundry other items, and a summary with remarks.

The Provincial Medical Journal,

JULY, 1889.

IN the Report of the Commission on Hydrophobia occurs the following paragraph: "The annual number of deaths from hydrophobia, during the ten years ending 1885, was, in all England, forty-three; in London, 8.5. If, as in the estimates used for judging the utility of that method (PASTEUR'S) of treatment, these numbers are taken as representing only five per cent. of the persons bitten, the preventive treatment will be required (yearly?) for **860** persons in all England, for **170** in London alone. For it will not be possible to say which among the whole number bitten are not in danger of hydrophobia, and *the method of prevention by cautery, excision*, are not to be depended on." This is one of the most extraordinary paragraphs in this very extraordinary report, and reveals such a want of acquaintance with the past statistics on the relation of dog-bites to hydrophobia, that we are astounded how it ever could have been introduced into a scientific report. But let that pass, and let us see how many have actually gone from England to PASTEUR. We have M. PASTEUR'S authority for the number. In a letter to the Lord Mayor of London, he tells "that we have had under our care **88** of your countrymen in 1886; **24** (?) in 1887; **63** in 1888; and already **35** in in the first five months of 1889; making a total of **210**, or an average of **50** for each year."

Compare the actual number who have gone with the estimated average, and then compare the mortality of the different years, and M. PASTEUR'S question will be answered. "It is probable (M. PASTEUR might have said certain) that during the last four years there has been a large number of persons bitten by rabid animals in England, but that many of them, for various reasons, have not made the journey to Paris. It would be of great advantage to have a careful inquiry made into this matter, and to determine the rate of mortality amongst those who held aloof." We have some interesting statistics as to a number bitten by dogs in 1885, 1886, 1887, in the metropolitan area—bitten under nearly the same conditions as many of those who went to the Institute—viz., by wandering dogs. If we look at the list of those who went to Paris, we shall see such cases as that of Lord CRABTREE, etc., who were bitten by dogs which were simply savage or irritable; or that of the girl TATTERSALL, bitten by a wandering dog. In the statistics, the dog that bit TATTERSALL is said to "*be rabid*," *on authority of a veterinary surgeon;* in fact, the dog was not seen by a veterinary surgeon, as it ran away after biting the little girl, and was lost. During 1885, 1886, 1887, there were **286** policemen bitten by dogs of all kinds, rabid or not; **1,114** private persons, and **40** postmen. These figures represent a small tithe of the number that must have been bitten in England. In 1886 and 1887, there were two deaths from hydrophobia in the same area. The police must have killed a number of rabid dogs, and been bitten by rabid dogs. That is a probable and reasonable hypothesis. How many policemen have died in the metropolitan area? How many were sent to PASTEUR? How many thousands have been bitten in the provinces during the years 1885, 1886, 1887, 1888, by *suspicious* dogs? That only 210 should have gone over to Paris during the years is rather surprising. Of course, it means that only those who had money could afford the journey; in case of the poor, a subscription was raised. What has become of those who could not go, and who had to content themselves with cauterisation, etc.? They are none the worse for their imposed disability to join the fortunate few who were able to see the gay city by the Seine.

"*The methods of cauterisation, excision*, cannot be depended on" (Report of Commissioners). What saved the poor, who never have even heard of Paris, because the **50** out of the **800** is but a small proportion? If, in place of the concluding paragraph in the report, the Commissioners had had the courage of their opinions, and said "that a PASTEUR Institute was required in London," they would have been logical, and we could understand the report. But as it stands it is a movement of what is known in the racing world, as high-class or scientific "hedging."

Now, however, the proposed PASTEUR'S Institute is to be established, there is much writing up in the journals of the danger and frequency of rabies and hydrophobia, and M. PASTEUR has written to the Lord Mayor pointing out that there is a young scientist ready trained, and England should redeem her character. We have not one word to say against a PASTEUR Institute in London. We do not think it is required, but those who believe in the system are perfectly justified in carrying their convictions to a logical conclusion. We should naturally prefer to see common sense triumphant, to see rabies stamped out as it has been stamped out in Germany, by intelligent direction of police laws, so that hydrophobia should be unknown, but with the visit of the Lord Mayor of London to Paris it became inevitable that we should soon have a PASTEUR Institute in London; the reign of common sense is always at an end when fashion comes in, and takes the reins. VINCENT RICHARDS, in India, has ably pointed out the fallacies underlying the statistics, and we agree with his latest utterances.

"But whatever the uncertainties of these French cases may be, the certainties of the English ones are pretty clear as gathered from the Parliamentary returns, cited by the *Lancet*, showing that of the twenty-four persons treated for bites, said to be unquestionably rabid, three died. An unsuccessful result, which, says the *Lancet*, 'must probably be attributed to the inoculations being performed too late'—presumably after infection had taken place; but it is not thought necessary to enlighten us as to the number of days that had elapsed between the reception of the bites and the commencement of the treatment, or as to why absolute success for the method is claimed in those cases, in which sufficiently long intervals had occurred to permit of infection, had the patients been inoculated with rabic virus before

they came under Pasteurization. I must, therefore, beg to differ with the *Lancet* when the editors assert that in spite of adverse criticism the treatment has been found to be efficacious. On the contrary, every one of the proofs advanced in support of the ever-shifting methods has crumbled to pieces under close and intelligent examination. Ought M. Pasteur to be surprised at the opposition he has met with? Has his mode of procedure been such as to court confidence? Has he not, from time to time, before the exposition, modified his method and treatment, until at last we find the method, which was declared perfect as a cure, is admittedly useless *when infection has occurred.* After such an admission as that it is clearly ridiculous for M. Pasteur or M. Grancher to claim success by a statistical manipulation of figures which are based upon an assumption radically and totally opposed to its terms."

At a meeting of the College of Physicians, Philadelphia, on May 1st, Dr. J. P. Crozer Griffith read a very useful paper on the unpleasant effects of sulphonal; and in view of the many articles written in praise of this product, Dr. Griffith's experiences should be borne in mind. Dr. Griffith states that he does not desire to decry a useful medicine, but to aid in establishing its true value in comparison with other hypnotics. The cases he refers to in his paper occurred in his own experience. The following are some of the chief disadvantages of the drug:—

1. *Its slowness of action.*—So generally, indeed, says Dr. Griffith, has the experience of clinicians agreed on this point, that Kast, who first employed the drug, has written a second article which might almost be called *a defence* of sulphonal, and in which he discusses the reasons for this long delay in action.

2. A greater difficulty to be overcome in the use of sulphonal is the marked tendency which its hypnotic action has to persist during the following day. Dr. Griffith gives cases in support of this. This prolonged hypnotic action has frequently been referred to by writers. L. L. Johnson (*Medical News*, September 8th, 1888), for example, reports a case in which the patient promptly fell asleep after thirty grains of sulphonal given in the evening, but was very somnolent until afternoon of the next day. In smaller amount the drug acted very well. Algeri (*La Reforma Medica*, No. 233, 1888,) says that the action of large doses continues through the following day, and Oestreicher (*Berlin klin. Wochenschr.*, June 18th, 1888,) has seen sleep absent during the night, but persist through the following morning. Lovegrove (*Brit. Med. Jour.*, May 26th, 1888), too, states that the effects on patients to whom he gave the drug were very discouraging. For several hours after taking it no appreciable action could be noticed, but during a great part of the next day there was extreme drowsiness and considerable cyanosis. The case of Schotten's is of especial interest in this connection. Kast discusses this "postponed action" in the article referred to, admitting that it is often witnessed, and that it constitutes a great disadvantage when it is necessary that the patient be actively employed during the day. For this difficulty he has no special remedy to propose in addition to the method of administration described, except that the dose be carefully adapted to the individual.

3. But this *determination of the individual dose*, in order to overcome the difficulties mentioned, itself constitutes a sometimes insurmountable obstacle to the use of sulphonal. The amount necessary to produce satisfactory sleep was followed by the prolonged effect on the following day, or by various unpleasant after-effects presently to be described, while any smaller amount failed to bring the desired result during the night. In quite a number of cases it was observed that a small dose merely served to render the patient uncomfortable in the night and upon the following day, while a full dose procured satisfying sleep, and the morning was free of prolonged action or disagreeable after-effects. It would seem sometimes as though sound sleep were necessary to exhaust, so to speak, the action of the medicine. Matthes (*Contralbl. f. klin. Med.*, No. 40, 1888; *Wien. med. Blätter*, December 13th, 1888), too, reports a case in which very marked disagreeable after-effects appeared to develop because the sulphonal-sleep had been much disturbed by outside causes.

4. *Unpleasant secondary effects.*—Many writers have observed them, so that the claim made by the makers of the drug and by some of its users, that it is totally without disagreeable secondary action, is not substantiated. A tendency to an excited mental condition *accompanying* but not *replacing* sleep is shown by cases III. and IV., but especially by X. Temporary *delusions* after the ingestion of the drug are reported by Furbringer (quoted by Zerner, *loc. cit.*), and may be classified in the same category with the excited mental conditions I have reported. *Nausea*, *dizziness* and *headache* have been already mentioned as effects which may follow the ingestion of sulphonal. Rabbas (*Berlin. klin. Wochenschr.*, April 23rd, 1888), has been vomiting on the morning after the ingestion of sulphonal, and in another patient *diarrhœa* occurred; but he is not certain that these symptoms were attributable to the action of the medicament. *Heaviness in the head* and dizziness were observed by Sachs (*New York Medical Record*, October 6th, 1888), in a patient who had taken two doses each of 2 grammes three hours apart. Schwalbe (*Deut. med. Wochenschr.*, June 21st, 1888) has in several instances observed dizziness, headache, nausea, and in one case vomiting, after a dose of only 1 to 1.5 grammes and S. G. Burnett (*New York Medical Journal*, March 2nd, 1889) has seen two instances of vomiting. The production of a marked *sense of fatigue*, of *depression*, and of *confusion of mind* is not infrequently referred to by authors. J. Frankel (*Berlin klin. Wochenschr.*, July 23rd, 1888) has found these symptoms so decided in a number of patients that the drug could no longer be given them; Matthes (*loc. cit.*) refers to the sense of exhaustion and depression as the secondary effects most frequently observed, and Oestreicher (*loc. cit.*)

has seen them in one or two out of eighteen cases. In one of these it was very pronounced, and the patient refused to take the medicine again. OTT (*Prag med. Wochenschr.*, October 3rd, 1888) refers to the sense of fatigue on waking as the chief bad symptom which the drug leaves behind it. He reports a case in which three grammes caused vomiting and an attack of *fainting*. The confusion of mind is exemplified in several of the cases I have reported, especially in case XII. In two instances I have seen full doses of sulphonal produce a *disturbance of gait.*

The occurrence of a drunken staggering gait has also been reported by ZERNER and by OTTO-DALLDORF.

ENGELMANN details a case in which three grammes produced an erythematous eruption over the breast and inner surface of the arms, attended by considerable itching. Another instance of an eruption occurred in a case of SCHOTTEN'S. SCHMEY details most unpleasant results following the administration of sulphonal to a case of angina pectoris from arterio sclerosis.

5. Finally, the *uncertainty of hypnotic action* is one of sulphonal's disadvantages—a fault which it shares with all hypnotics. Cases of failure of action on the part of sulphonal are too numerous in the literature to allow of quoting from them. Among those who have been unfavourably impressed by the drug, on the ground of its inefficiency, may be mentioned WILSON and HUTCHINSON (*Med. and Surg. Reporter*, June 9th, 1888), LOVEGROVE (*loc. cit.*), SALGO (*Wien. med. Wochenschr.*, No. 22, 1888), and REGIS (*Journ. de Méd. de Bordeaux*, July 1st, 1888). The views of Dr. GRIFFITH must be taken into account by those who intend to try sulphonal; thereby disappointment will be spared by knowing beforehand that there are some drawbacks, and that certain symptoms may follow its use.

THE French journals are very fond of *feuilletons*, or *causeries*, bearing indirectly on medicine. These pleasant chatty papers are written for medical men who like to vary the monotony of pure professional details by reading light articles, by which their minds are unbent, as good old ÆSOP suggested in one of his fables. In the *Journal de Medicine de Paris*, June 8th, 1889, there is a very interesting *feuilleton*, showing the influence exercised by the study of medicine on a number of writers of eminence. "One always returns to one's first love;" and in the subsequent careers of eminent men we find, according to this writer, the influence of the first profession. SAINTE BEUVE was regularly entered—his first inscription dating 3rd November, 1823; the fifth, 13th November, 1827. In the autobiographical notice as sent to M. ALPHONSE LE ROY, professor at the University of Liége, published later by M. TROUBAT, he says: "He served for a year as *interne* at St. Louis," and that "he had benefitted much by the anatomical and physiological teaching he had received at that time." It now appears probable that he was an *interne* under RICHERAND, but he was not the sole master of the future author of *Causeries de Lundi.* There is reason to believe that anatomy occupied the attention of SAINTE BEUVE, for he was an anatomist all his life. His works remain to attest this. When he does not dissect his contemporaries he dissects himself. Impitiable, he acts as the anatomist, dissecting everything, examining everything, analysing everything.

BALZAC says, in his "Physiology of Marriage," that "One should not marry without studying anatomy and at least dissecting a woman." For the purpose of the critic the dissection of a man would serve as useful a purpose, and this training which SAINTE BEUVE received may account for his skill in his psychological dissections.

Another critic, whose works reveal that he has held the scalpel, is TAINE, whose precision, though differing from that of SAINTE BEUVE, reveals the hand of the master.

RALISBONNE calls TAINE an *anatomist à outrance.* Prince NAPOLEON calls him better an entomologist. "Nature created him to classify and describe strange collections. He is a perpetual analyst, always armed with his section forceps, and taking a pleasure in dissecting his victim up to the last fibre. If he examines a philosophy he wants to know the medical bulletin of the life of the philosopher; if he examines a work of art, the pathological state of the sculptor or the painter." We cannot say much of the charming poet to whom the beretomaniacs desire to erect a statue—a tardy homage, which will not add anything to his glory—ALFRED DE MUSSY, who sings so charmingly of our joys and sorrows. In 1827, at the instance of his father, he entered the study of medicine, and followed the course of M. BALLARD, the physiologist. The study of medicine did not suit him, and we need not regret that he exchanged the bistoury for the pen. Next is mentioned the poet JEAN RICHEPIN, the poet LOUIS BOUILBET, and two paladins of the press. At the present day JULES CORNELY, whose pen is as keen as the blade of a surgical instrument, is in the foremost ranks of journalism. He commenced his medical studies at Lyons, and was *interne.* When he gave up medicine and started for Paris all his baggage consisted of a drama. Then the writer briefly alludes to ADRIAN MARX, NARDOR, and CHARLES CROS.

LITTRE, who knew everything, and knew it well, was an *interne*, but did not take out the doctorate; but he has left us his dictionary of medicine, a translation of HIPPOCRATES, and a book of medical varieties. In this gallery must be included the grand composer, BERLIOZ, who was a man of letters, as well as a musician. BERLIOZ' father was a practitioner, practising in the country, where he had a local reputation. The Medical Society of Montpellier in 1810 had honoured him for a memoir on chronic maladies. Six years later, in 1816, he published a treatise on acupuncture, then a series of observations on atmospheric conditions and their influence on the production of various pathological states. Dr. LOUIS BERLIOZ was the first master of his eminent son, for the father did not foresee the distinguished career of his pupil. Young BERLIOZ was restive under the paternal yoke, and did not take kindly—even with the

temptation of a magnificent flute—to the study of the osteology of Munro, a beautiful copy of which his father had. At the age of sixteen young Berlioz went to Paris, and entered the Faculty, attending the course of Gay-Lussac on experimental electricity, of Thenard on chemistry, and Andrieux on literature. He assisted with a stoical resignation at the course of anatomy of Professor Amussat, but medicine did not attract him: music held him in her chains. He says: "To be a physician, to study anatomy, to dissect, to assist at horrible operations, in place of giving myself body and soul to music, that sublime art, the grandeur of which I already conceived; to quit the empyrean for the more sad region of the earth, the immortal angels of poetry and love and their inspired chants for dirty muses, frightful *garcons* of the amphitheatre, hideous corpses, cries of patients, moanings, and the *râles*, the precursor of death. Oh, no! all this seemed to me the absolute reversal of the order of my life, monstrous and impossible." His dislike to medicine became stronger when he was taken for the first time to the dissection room of La Pitie. He has left us a realistic description: "The aspect of this horrible human charnel house," he cries in his *Memoires*, "the dishevelled members, the grimacing heads, the opened crania, the bloody choaca, the revolting odour exhaled, the swarms of sparrows disputing for shreds of lungs, the rats gnawing in their corners the bleeding vertebræ, filled me with such horror that, jumping through the window of the amphitheatre, I ran breathless home, as if death and his frightful *cortegé* were at my heels." Berlioz was decidedly a little poetic, and did not scruple at making the reader creep. No doubt, the dissection room in those days was not as spacious or as well managed as at the present day; but the rats and sparrows appear hyperbolical. A second attempt was not more successful; but events revealed his vocation—the opera. He went to hear Danaides, of Salieri; then farewell to the amphitheatre and the lectures of Amussat; and henceforth he devoted himself to the study of Gluck, and the numerous manuscripts of the library of the Conservatoire. Yet, though Berlioz's medical studies were short, we find that in his correspondence with Ferrand he quotes Hippocrates in Latin, which he no doubt learnt at the preparatory lessons of his father. In a letter to Schumann, he makes allusion to the methods of preparation of the anatomist's ruisch. His *feuilletons* are filled with medical terms, and his works bear traces of his scientific knowledge. In his "Musical Voyage in Germany" he quotes his old masters, Thenard and Gay-Lussac in his "Memoires." In his "Soireés de L'Orchestre," or in his "Grotesques de la Musique," he speaks of the noise which the blood produces in the head in passing through the carotid arteries, on the distinction of the cerebral lobes, on crucial incisions, etc. The principles of acoustics were familiar to him, and he criticises the theory of vibration, on which are founded the various systems of harmony. He observes and notes the resonance of the bells of St. Paul's, London, and then enters into a discussion on the hygiene of infancy *à propos* to the alimentation of poor children, to which he attributes a special influence in the development of the vocal organs. Dr. A. Cabanes, who has contributed this *feuilleton* to the *Journal de Medicine de Paris*, gives other instances of Berlioz, impressions caused by his first studies in medicine, and we think he has established his theme in his extremely interesting article.

The Mayor of Bath, Mr. H. W. Freeman, F.R.C.S., is to be congratulated on the success of the ceremony that took place in the ancient city on June 13th; nay more, the citizens of Bath owe him a debt of gratitude for the admirable manner in which he discharged his multifarious and responsible duties on that memorable occasion, whilst the guests are under an obligation to him for the courteous way in which he received them, and for the excellent arrangements he made for their enjoyment and comfort. In this he was no doubt loyally assisted by the Corporation, but we are fain to believe that the personal equation of the Mayor had a great deal to do with the system and order of the reception, and we feel sure that as a medical practitioner of eminence, he was able to bring from all parts of England his *confrères* to support him, in a way that no layman could have done. He can truly say when his term of office expires: "If you search for any proof of the work done during my Mayoralty, look at these magnificent baths, which your public spirit, under wise direction, has been the means of erecting." The ceremony of June 13th has a more than local importance—it is national. In the series of articles which have for some years been appearing in the "Provincial Medical Journal," we have been true to a few general principles, and we may again enumerate them.

First, there can be no wealth in life without health. Health means not only happiness, but as we shall see material prosperity. To purchase health, men will give all they possess; they fly from country to country in search of the means of restoring it; and it is as true to-day as it was some thousand years ago, that "a man will give his skin for his life." Health-giving waters abound in England. It it a national duty to preserve and develop them. We must grant, that whilst we can, as a rule, give patients absolute relief in sickness, yet we cannot, in many cases, complete our work without bringing to our aid change—change in diet, air, surroundings—and this change can be best secured at a sea-side resort, or inland spa. These elementary ideas we have frequently dwelt on, they may seem puerile, but elementary principles are open to this objection. Now, corporations or authorities which possess arsenical, saline, chalybeate, and bromine waters in their localities, should consider that they hold them in trust for the nation, for here in this England of ours we should be able to utilise all our national resources in whatever way we possess them, and not the least in value are our mineral springs. This is the first and the highest aspect of the question, that the restoration to health of our people should be possible of achievement here in England, *eito tuto et jucunde;* and that

it should be within the reach of all to use chalybeate and other waters; that riches and rank should not alone monopolise them; and that, in the interests of the whole nation, each mineral spring should be fully utilised, arrangements being made that the application of the waters should be made under the best conditions, not only of hygiene but of commerce.

Second, we have said that mineral waters must be classed amongst our national commercial resources, just as much as coal, tin, iron, or even gold. On the continent, this principle has been fully realised. A mineral spring may be made as remunerative as a lead, iron, or tin mine. It may bring to the locality thousands and thousands of visitors, who will distribute wealth to the community, so that towns virtually live out of the visitors who come to seek health. At continental watering places and spas the industrial aspects have been so fully considered, that every attraction is set forth to induce visitors to come. The syndicates, which own the waters, or the corporations, invest large sums of money in costly buildings, such as casinos, kursaals baths. Excellent bands are engaged, so that, whilst the persons are taking the waters, promenading in the open air becomes a pleasant pastime. We need not point out how much the amusements, the bands, the concerts, add to the attractions of any "cure," or the absolute importance of the installation of baths. This is also elementary, but we are here in England only beginning to appreciate these facts. We have too long allowed the foreign health resorts undisputed opposition. We have almost compelled English patients to go abroad. Though we do not expect to do away with resort to foreign watering places, nor do we deem it absolutely desirable, yet we may, by opening such baths as the ones just installed at Bath, induce English patients to spend their money in England, and to give support to what is British industry. This is not Chauvinism—it is patriotism of a proper kind. If at Bath we have mineral waters equal to those of the Continent; if health can be purchased by resorting to them; if the advantages to be obtained are as great, if the baths and the surroundings are equal, it does not require much exercise of reason to arrive at the conclusion that the patient who overlooks all these points, and who still desires to go abroad, is acting without much sense. The profession in England, we feel sure, will respond to the invitation of the Mayor to make known to their patients the advantages of Bath as a health resort; and now that the bathing arrangements are as complete as at any foreign watering place, they can do so without any fear of being reproached for their advocacy.

The economic aspects are well worth the consideration of patients. Sickness is expensive; resources even of well-to-do families are much crippled by chronic disease; the expenses of a continental journey and residence are very high, apart from the long distances to travel, the inconveniences of foreign lodging houses, the diet, the difference in language, so that when we place in the scales the reasons for home residence and those for foreign residence, the balance in favour of the former kicks the beam. We trust that the new baths will fully realize all that is hoped for them, and that the Mayor and Corporation of Bath will never regret the outlay they have already invested. But they must not rest on their oars. It is a matter of competition, and at the present day there is no such thing as standing still. They will have to exercise a vigilant management over the hotels and lodging houses of Bath, so as to bring them to a high state of sanitation; they must provide ample attractions in the shape of music, concerts, and the rest; and they must not be above taking hints from what is done at continental spas. The increasing popularity of Bath gives promise of even a more successful future.

Annotations.

"Forsan et hæc olim meminisse juvabit."

THE PHILOSOPHER'S STONE OR WHAT!

Some of the old philosophers sought for the principle of life, for something which would keep the old from growing feeble, which would effectually arrest the ravages of time, and make the old man vigorous. This story has been worked out in many novels, but we have looked upon the alchymists as dreamers who wasted time and substance in the search after an *ignis fatuus*. The elixir of life, we now learn from our French exchanges, is within the reach of all of us.

"We have," says the *Journal de Medecine de Paris*, of June 23rd, "had many therapeutical surprises during late years: the spinal marrows of M. Pasteur, the suspension treatment of M. Charcot, the tetanus of M. Verneuil; but none of them approach the discovery by M. Brown-Séquard." We may remind our readers that Brown-Séquard is president of the Biological Society of Paris, and that he has the reputation of being one of the most illustrious physiologists of the age. His face and figure may be familiar to those who attend the meetings of the British Medical Association. Bearing these facts in mind, our readers will better appreciate the value of the following personal contribution to science made by the president, Brown-Séquard, to the Biological Society of Paris. "You have known," says the illustrious physiologist, "that for the past six months I was age-ing; a valetudinarian, I tottered, my intelligence was becoming weaker, my sphincters had lost their power—in a word I was marching gently towards second childhood. It was nothing to be wondered at, considering I was born in 1815. Look at me to-day; my eye sparkles, my speech is sure, my intelligence is re-awakened. I work in my laboratory for twelve hours a day, my sphincters perform their functions marvellously—in a word I have returned to my twentieth year." All these surprising results have been obtained in a most extraordinary way, and M. Séquard does not wish to imitate the example of the old alchymists, nor does he even imitate the example of M. Pasteur. He might have kept his secret to himself, and sold it to a company and exploited the new elixir in little glass tubes, when a fortune would have

awaited him ; because old age is creeping on everyone, and a commodity of this kind would be in universal demand, for the older people get the more foolish they get, so that clients would be ever to hand. M. Brown-Séquard is, however, above trade and making a profit out of a scientific discovery, so he tells us of the simple method he has so successfully adopted in his own person. "All the world knows," continues M. Séquard, that eunuchs are weak physiologically and morally, and we know that this weakness also exists in men who abuse the sexual power." These facts induced M. Séquard to believe that it was possible to inject, without danger, into the veins of an old man, sperm, and thus produce manifestations of rejuvenescence. This is the theory, but M. Brown-Séquard went farther and tested on himself the efficacy of the strange remedy. We give the text in French of the preparation M. Brown-Séquard used. "*Ou y broie toute la masse testiculaire, ou y agonte de 2 à 5 centim, cubes d'eau distillée, puis ou met le tout sur un filtre. Le liquide anisi obtenu est immediatement injecté.*"

We quote the text as given by the *Journal de Medecine de Paris*, lest our readers should think that this was a *canard.* M. Brown-Séquard employed twelve or fourteen injections into the lower members—one injection every day. He concluded by saying that some might assign the results to imagination ; on his part he advised all the septuagenarians to repeat his experiments, and then it would be seen whether the results were to be attributed to special idiosyncrasy or suggestion. He felt convinced that in his case the return of juvenescence was to be attributed to the nature of the injections.

Great is Diana of the Ephesians, and great is science of the present day. The lay press has taken up with *reclame* the experience and formulæ of the old physiologist, and it is not difficult to prophesy what the result will be. Young animals will be sacrified, and we shall have shortly in the market concentrated solutions of the new elixir. Professors of the art of insuring longevity will start their caravans, and with band and banner travel through the provincial towns, promising to the old a new lease of life. This is what is to be expected of the uneducated population and the unenlightened ; but we fear that, even as the suspension treatment of Charcot was taken up by the profession, we shall have a scientific discussion of the value of M. Brown-Séquard's remedy, and the septuagenarians in the profession, of whom there are a number, with incipient *ramollissement* will put to the test, purely in the interests of science, the formula of this distinguished physiologist ; and we shall have a new literature brought about by this latest discovery of science. Dr. Agerontimons, in the *Revue Génerale de Thérapeutique*, has described in rhyme the experiments of Dr. Séquard, as follows :

De merveilles sans nom ce grand siècle est témoin
Qui peut dire au progrès : Tu n'iras pas plus loin ?
Entrez au temple saint où la Biologie
S'unit à ses nombreuses sœurs en . . ologie.
Brown-Sequard y préside à soixante-douze ans,
Ecoutez sa voix ferme et ses mâles accents ;
Ils disent simplement, sa découverte immense.
" J'ai retrouvé la vraie fontaine de Jouvence ;
" Son liquide fameux coule tout près de nous,
" Comme une outre, il remplit les *Orchis* des toutous ;
" Prenez d'un chien vivant le suc testiculaire,
" Injectez sous la peau . . Serait-il séculaire,
" Le nombre de vos ans tout à coup disparaît,
" A chaque injection, la jeunesse renaît.
" La piqûre est puissante, un peu de lymphangite
" En marque les contours ; mais pour un tel succès
" De douleur cent fois pire on méprise l'accès.
" Voilà mon procédé. Quelque malin critique
" Jaloux ou pudibond le trouve-t-il cynique ?
" Du cobaye innocent il peut se contenter ;
" Le résultat est sûr, et j'en puis attester
" Le succès merveilleux de ma propre entreprise ;
" De vingt ans enlevés, j'éprouve la surprise
" Voyez le dynamo, mes muscles sont plus forts
" Et comme aux jours heureux secondent mes efforts,
" L'intestin paresseux, au dire de Voltaire
" *Inhibant* le cerveau rendrait le caractère
" Hargneux, félon, cruel ? D'après mon procédé
" Il s'exonère seul. *Citô et jucunde.*
" L'esprit en est plus leste et ma verve docile
" Ne trouve plus jamais le travail difficile.
" J'éprouve en tout mon être une nouvelle ardeur,
" Ma fibre vésicale a repris sa vigueur ;
" Cette eau qui lentement tombait, débile et molle,
" Se projette en arcade et décrit l'hyperbole.
" . . Ce premier pas est grand ! . . Vous le comprenez bien,
" Mais modeste et discret je n'ajouterai rien.—
" Pouvais-je pour moi seul garder un tel bien-être ?
" Essayez, croyez-moi. Dans un siècle peut-être ?
" Vous redirez encore à la postérité !
" Séquard est immortel et l'a bien mérité.

But M. Brown-Séquard is only at the commencement of his studies, as the following extract from *L'Union Medicale*, June 22nd, 1889, tells us :

"M. Brown-Séquard s'est., depuis la premiere communication, creuse la cervelle pour trouver comment agit le liquide testiculaire pour rajeunir anisi ceux a qui on l'injecté it a trouvé que ce liquide remplacait chez les viellards celui que leur testicules ne secrétait plus normalement. Il faut, d'après lui, pour que l'homme joeuiss de toute sa vigueur, que le testicule fonctionne, et qu'il fonctionne sans cesse. A l'appui de cette proposition, il cite le fait suivant :

Deux sujets épuisés, âgés l'un de 55 ans environ, l'autre de 63 à 65 ans, éprouvaient une faiblesse cérébrale très marquée ; afin de leur redonner de la vigueur, il leur conseilla, pour faire fonctionner leurs testicules, d'avoir recours à . . je vous le donne en mille . . à la masturbation ! oui, à la masturbation, mais incomplète et sans arriver à l'éjaculation ; il fallait bien faire fonctionner le testicule, mais il ne fallait pas priver l'organisme du produit de la sécrétion ; aussi, dès que la contraction indicatrice de l'éjaculation commençait, la manœuvre cessait. Il parait que les résultats fournis chez ces deux hommes par cette singulière méthode furent des plus favorables.

M. Brown-Séquard se propose de pousser plus loin ses expériences et de prendre la femme comme champ d'action. Entendons-nous.

On sait que les femmes auxquelles on enlève les ovaires de deviennent comparables, au point de vue de la vitalité générale, aux hommes auxquels on a enlevé les testicules ; se sont de véritables eunuques. Par conséquent, les ovaires exerceraient sur la vitalité organique la même influence que les testicules ; partant de cette donnée, M. Brown-Séquard, s'est demandé s'il ne serait pas possible d'obtenir chez la femme des résultats comparables à ceux qu'il a constatés sur lui-même, en employant chez elle du liquide obtenu par la trituration des ovaires. Il va commencer prochainment ces expériences, mais il serait heureux qu'elles fussent faites aussi par d'autres que par lui, par exemple, par des femmes-médecins sur leur propre personne ou sur d'autres femmes.

ESSENCE OF THE PROCEEDINGS OF THE MEDICAL COUNCIL.

It is a matter of very great interest to the profession as to whether the president of the Medical Council should walk behind the president of Royal College of Surgeons, or whether the Royal College of Surgeons' president should walk behind the president of the Medical Council, so the matter in dispute has been submitted to the most eminent authorities, and we may expect, within a few years, to have the due order of precedence set down in the official book of etiquette. This occupied part of the time of the Council. It does not represent a fair sample of the business done during the session, which was a short one. The want of funds is oppressing the Council, and for this reason they have suspended the visitation of examinations. They may make money out of the Pharmacopœia, which they certainly would not do if they allowed open competition, as in the work, a prospectus of which has been issued, and of course the Council have the power of applying for an injunction. The address of the president was short, thereby saving many pounds a day; the judicial functions of the Council had been exercised with fairness, and we believe that, in consequence of the determination shown by the Council, a number of sinners have repented, and tried to walk within professional lines. Penal discipline is unfortunately necessary, but justice to the accused requires that thorough investigation should take place, and this is costly, as we believe the whole Council have to sit and determine whether erasure from the Register should follow on professional delinquency. The proposal in favour of students learning shorthand is negatived. The suggestion that we should have hospitals for the treatment of insanity, is one that must commend itself. At present we have asylums, and this term explains itself. A medical superintendent who has the charge of 1,400 patients, and the management, even with excellent assistance, cannot treat insanity. He is weighed down by his multifarious duties. The examinations, conducted as they have been, piecemeal, admit of reform, and the Council very properly took into consideration the extreme subdivision of the examinations, so that we may expect some change to be made in this respect. Again the subjects on which the students are examined are not wisely selected, too little attention being paid to what we might call the practical class of diseases, with which the student, in after life, will be occupied. Lectures have been the usual means of instruction, and clinical lectures are simply invaluable. There are, of course, lecturers *and* lecturers; unfortunately a good lecturer is a rarity.

Of course, it is easy to find fault with the lecture system, but it is much more difficult to suggest a remedy. We should certainly say that greater development should be given to the clinical lecture, the patient being shown not necessarily at the bed-side, but in the theatre. A lecturer should not read a long paper, he should be able to speak extemporaneously, of course, from a few notes. At the clinical lecture interest is always maintained when the lecturer is able to speak in a conversational way. There are a few other subjects of minor importance, which came before the Council. The minutes are now published, and may be obtained from the Registrar, Medical Council Office, Oxford-street, London.

RECENT RESULTS OF THE PASTEUR TREATMENT.

The period of incubation in hydrophobia averages, as a rule, from forty to sixty days. The following case is taken from the *Journal de Medicine de Paris*, May 26th. O. S——, decorator, was bitten in 1886 by a dog suspected to be rabid, and immediately killed by its owner. O. S—— immediately went to Paris, and was treated *secundum artem*, and discharged "cured." We regret to state that O. S—— died last month of hydrophobia, three years after the bite. The owner of the dog was bitten at the same time on the finger. He did not go to Paris, contenting himself with immediate cauterization. The remarkable period of incubation, three years, in this reported case throws into strong relief the singular nature of the poison we have to deal with in hydrophobia.

On the 27th October, 1887, *un garcon* named Dupont, living at 114, Boulevard de Belle Ville, was bitten by a dog supposed to be mad. He was taken to a pharmacien, who in place of cauterizing the wound applied an alkali, Dupont then went to the Pasteur Institute, and was discharged after some days of treatment cured. We learn from the *Journal de Medicine de Paris*, June 16th, that Dupont was sent to the Hotel Dieu suffering from hydrophobia, some time in June.

THE PARIS EXHIBITION.

Those who visit Paris, and we presume that a number of medical men will take their holidays there, should be particular about drinking the ordinary table water unless they like liquid sewage. The great concourse of visitors to Paris has necessarily involved the use of a large quantity of the water, and the Seine has been, and will no doubt be, utilized. The best plan is to drink Apollinaris or some other mineral water, Maçon or other sound French wine.

BLACK-MAIL, OR GRASP YOUR NETTLE.

One of the latest instances of black-mail is that made upon Malcolm Morris. He is to be congratulated upon his courage in turning the tables upon his persecutors, and we are pleased to see that a number of his professional brethren have joined in an expression of their regard for him, and of condolence at the annoyance to which he has been exposed. It is an old saying, "Grasp your nettle," and in dealing with black-mailers this is the plan. We fear that too many are inclined to hush up matters of this kind, through dread of publicity. Innocent men have consented to pay black-mailers, thereby encouraging the system. The black-mailer who has once tasted money will try his hand at another victim. Mr. Morris by his action has deserved well of the profession.

THE PENNY A WEEK COLLECTION.

The penny a week collections asked for from the working men as their contribution to the London Hospital is not as fully appreciated as its promoters expected. The *Philanthropist* summarises some of the objections:

1. The working classes already contribute more than their share to the hospitals.

2. The people who derive the greatest benefit from these institutions are the students and the wealthy classes, for whose benefit the poor are subjected to all sorts of experiments.

3. Working men, if they contribute, ought to exercise control.

4. The penny a week would in practice become compulsory.

The Lord Mayor has replied that a half-penny would be acceptable, but there is no compulsion. "If a man feels that 4*s.* 4*d.* or 2*s.* 2*d.* (?) a year for medical and surgical advice of the highest order, (?) and as much medicine as may be required, is an exorbitant contribution—if he prefers to rely upon charity, there is nothing in the Lord Mayor's project to prevent him."

CREDULOUS PEOPLE.

It would be hardly fair to brand the clergy of all denominations with being supporters of quackery, but there is sufficient justification for complaints made by the press of America, France, and England, that clergymen are to be found in large numbers who endorse and support quackery. We have under our eyes a full page of advertisements in a weekly paper, setting forth the virtues of the medicines sold by Sequah, Sequah being a shrewd American who is now exploiting Yorkshire. Sequar speaks to the halt and the lame, and to the incurable; and in this advertisement there is one column headed "The Churches speak." In this column are given the letters of a number of clergymen, amongst whom we find the following:—W. Wilson, minister, North Parish, Aberdeen; James Burton, St. Andrew's, Aberdeen; Dr. Jamieson, Old Machar Cathedral, Aberdeen; Andrew Inglis, Lochee, Dundee; J. B. St. Clair, minister, Aberdeen; James Dewar, minister, Aberdeen; Parker Noble, Jerry-road, Dundee; S. Smith, assistant priest, St. Margaret's, Dundee; Father Macdonald, Lochee, Dundee; A. Alexander, Dundee; James A. Russell, Aberdeen; Father Forder, St. Patrick's, Sunderland; C. V. Gee, St. Columba, Sunderland; J. W. Willink, St. John's Vicarage, Sunderland; Father Callanan, St. Joseph's, Sunderland; W. Berbery, C.C., St. Mary's, Sunderland; T. Jones, The Vicarage, Newport, Mon. These are a few of the names, and we really are astonished to find men, presumably educated, giving testimonials to a peripatetic charlatan, whose band and carriage gives proof in itself of his trade. We may fairly include these clergymen under the head of the credulous, and when we find pastors of this kind, we cannot expect much better things of their flocks. The working classes who make up the crowds which surround the caravan can afford four shillings for two small bottles, though they cannot afford to pay four shillings a year for the medical and surgical aid they receive at the local infirmaries. It is a very sad state of things, and affords ample food for moralizing.

THE LABORATORY FOR WORK.

Where is the best laboratory for the study of disease? Does England want more laboratories? Or,——but we must not ask too many conundrums. The best laboratory for the study of disease is in the hospital ward, or in the sick chamber, and we hope that shortly we shall have some words on this subject from some teacher of eminence. The ward or bed-side is the place for study; all else is simply supplementary—just as the test-tube, microscope, etc., are. Experimental pharmacology outside the sick room has not given us much; bacteriology or the laboratory have not given us much. When we compare the work of the clinicians with the work of the present day, we can only say: "These old clinicians were men; when shall we see their like again?"

SHORTHAND FOR MEDICAL STUDENTS.

Medical students have to attend a large number of lectures, something like a thousand in number; they have to take notes of these lectures, and presumedly it would be an advantage if shorthand could be used in the process. Considering that a large number of these lectures are not even worth the trouble of taking notes, it is a matter of question whether it would be worth the student's while to learn shorthand simply for this purpose. But shorthand might be applied to other purposes than simply taking notes of lectures; and we believe that it would be of great use in after life, not only for purposes of medicine, but for making entries of all kinds.

MEDICAL SICK AND BENEFIT SOCIETY.

The Society continues to flourish, and the balance sheet and tables should be read by all members of the profession. It is a very extraordinary thing, that the *Lancet* has almost completely ignored the Society. Lately the *Lancet* has offered the sum of £300 a year for distribution amongst poor members of the profession. It would be much better if the *Lancet* gave encouragement to thrift and providence by setting forth the advantages of this Society before its readers. We look upon the donation of the *Lancet* as simply a journalistic effort to increase its circulation, and we are astonished that the President of the Royal College of Surgeons should have accepted the position of almoner to a fund of this nature. There is no reason why such a thing should have been established, seeing that we have a medical benevolent fund. The *Lancet* could have, of course, given £300 a year to that, but it would not have obtained such kudos or publicity. Members of the profession who desire to provide for sickness and accident, should write for prospectus to Mr. C. J. Radley, 26, Wynn-road, Brixton, London.

M. PEYRAUD'S EXPERIMENTS.

ABOUT a year ago Dr. Peyraud, of Libourne, presented to the Academy of Medicine, Paris, a very important *memoire* on tanacetic rabies. In this paper were formulated for the first time the good effects of injections of essence of tansy for the cure of rabies. Essence of tansy produces simili-rabies, and a vaccine equal to that of Pasteur was said to be made from the tansy-rabies. Dr. Peyraud termed this chemical vaccine. "What progress would be realized," says the editor of the *Gazette Hebdomadaire des Sciences Medicales de Bordeaux*, "if we could suppress all the strange and difficult processes of the Pasteur Institute. With a simple flagon of essence of tansy, which could be procured in every part of the globe, rabies could be controlled without exposing the patient to inoculation." M. Trasbot was charged by the Academy with the duty of controlling Dr. Peyraud's experiments. He has reported to the Academy as follows: (1) Essence of tansy injected into the veins, in certain doses, produces in the rabbit a form of poisoning, symptoms of which resemble those of rabies. (2) Solution of chloral, 10 per cent., mixed before inoculation with the rabic virus, appears to diminish and even to destroy its virulent properties. (3) Essence of tansy injected at the point where rabic inoculation has been practised appears to prevent the development of rabies in a certain number of animals—four out of six—whilst in the test animals inoculated under the same conditions only one out of six survived. These figures appear favourable, in a certain measure, to the opinions sustained by Dr. Peyraud. The commission concluded by thanking Dr. Peyraud for his interesting researches, and to continue them so as to bring about greater accuracy.

PROVINCIAL DINNER OF THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.

A MOST successful meeting of the above Association was held at Queen's Hotel, Manchester, on June 19th. Drs. Macnaughton Jones, Gilbart-Smith, Abrahams, Fegan (London), represented the London contingent; whilst the provinces were represented by Drs. Leslie-Jones, Stewart, Daly, Dolan, Owen, etc. The general meeting was held at five p.m., under the presidency of Dr. Fegan. Owing to the sudden and lamented death of Dr. Robert Macdonald, there was a vacancy, and Dr. Kidd was appointed president elect. The dinner took place at the Queen's Hotel, and was well attended. Amongst those present were the leading practitioners of Manchester, and the neighbourhood. The usual toasts were proposed, and in response to that of the visitors, the Mayor of Salford responded. The Manchester meeting has been the means of bringing the Association prominently before the Irish practitioners of Lancashire and Yorkshire, and will, in time, result in a large accession from the northern district to the strength of the Association. An admirable selection of music was contributed by some friends of Dr. Daly during the dinner.

THE ELECTION AT THE ROYAL COLLEGE OF SURGEONS.

THE present election of the Council of Royal College Surgeons is a most important one, and we trust that the provincial Fellows will do their duty and elect provincial Fellows. We direct attention to the letter of Mr. Steele. It is now too late to enter into an explanation of the reasons why provincial Fellows should be elected, as we presume that, by this time, most of the voting papers have been sent in. The party in favour of the reform would be much strengthened by the return of Mr. Lawson Tait.

LEPROSY.

WE trust that there will not be a scare about the leprosy, as there has been about cancer and rabies. Undoubtedly something must be done in India, not only in the interest of the lepers themselves, but of the communities which have international relations with India. The testimonial to Father Damien, promoted by all sections and classes in England, will no doubt result in greater benefit to this unfortunate class of sufferers, and we may expect that, in India, Lazarettos will be established where they will have proper medical care and supervision.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THIS Society has exceeded the expectations of its founders, and at the present time, in point of numbers and financial results, leaves nothing to be desired. It may be regarded as an overflow from the Obstetrical Society; it is not by any means related to the Obstetrical, and we fear that the older Society does not look very approvingly upon the British Gynæcological. This is very much to be regretted, for there is ample room for both Societies. Obstetrics cover a very wide field, and it is impossible for an obstetrical society to adequately do justice to gynæcology. The Obstetrical Society has done excellent service in its time, and may still continue to advance the interests of the diseases of women, so far as they are confined to the puerperal state, but the British Gynæcological Society stands in a very different relation to the advancement of the study of diseases of women. It leaves the obstetric field to its rival, and deals with surgical diseases, and what is included under the proper heading of gynæcology. An obstetrician is not necessary a gynæcologist. We know that gynæcologists such as Tait, Bantock, etc., decline to have anything to do with obstetrics. This division of labour does not suit a few obstetricians, and it is thought that the Obstetrical Society afforded ample field for both obstetrics and gynæcology. It is very remarkable that there should be any difference of opinion on a matter of this kind after the experience we have from America. We write with regret, that the Americans are ahead of us in dentistry, and in gynæcology. Though we have individuals, who are ahead of them in all that relates to operative skill, but generally our statement is correct. The reason is that gynæcology was separated from

obstetrics, and its study put on a proper basis. Excellent handbooks as those of Thomas, Mundè, Goodall, have been published, and are to be found in every practitioner's library in the States. The Americans took up this study with all the energy of a young people, and we are simply following in their wake, and attempting to interest general practitioners in a branch of practice which is the most important one to them. There is always a little difficulty in launching out a new society. Even in the practice of medicine there are jealousies, but the British Gynæcological Society had even less difficulty than was anticipated. It evidently met a want; hence its hundreds of members; hence the success of its meetings and its transactions. Opposition and competition are excellent things; they stimulate to action; and the best thing for the British Gynæcological Society would be personal antagonism, as we feel sure it would stir up those who are interested in it to make it a still greater success.

New Remedies.

A method of obviating the inconvenience arising from the acidity of alkaloidal salts, when used in ophthalmic practice, has been suggested by M. Petit. When combined with boric acid the salts are distinctly basic, and the small quantity of boric acid set free in consequence of decomposition, as is the case with atropine and its isomers, as well as cocaine, would always be more than saturated by this excess of alkalinity. The borates are prepared by dissolving one part by weight of the alkaloid—*e.g.*, eserine, pilocarpine, atropine, hyoscyamine, or cocaine—in a little alcohol, and then adding two parts by weight of alkaloid separately dissolved in alcohol, mixing the two solutions and evaporating to dryness.

Under the name of *papier iodogène* a preparation has been introduced by M. Eymonnet as a substitute for iodized cotton in applications of the tincture of iodine. This preparation has the advantage of gradually giving off iodine when moistened with water. It consists of one sheet of paper impregnated with a mixture of potassium iodate and tartaric acid and dried, and another steeped in a solution of potassium iodide and dried. Between these two a thin sheet of paper is placed, and the three are stuck together. When required for use the *papier* is moistened and applied with a covering of sheet gutta percha. The tartaric acid attacks the potassium iodide, liberating hydriodic acid, and this reacts with the iodic acid from the iodate, setting free the iodine. A sensation of warmth is experienced, due to the revulsion set up by the nascent iodine. This sensation gradually becomes stronger, but is tolerable for the forty-five minutes during which the reaction lasts. When the reaction is over the paper becomes of a straw-yellow tint.

Pyciranthemum linifolium, popularly known in the United States as Virginia thyme, has lately been recommended by H. T. Painter as a remedy in dyspepsia, dysentery, and other intestinal affections, and as a useful diaphoretic. The fluid extract is prepared with a mixture of one part of alcohol and three parts of water. This preparation is, however, liable to deposit after some weeks, and a syrup is therefore preferred.

Antipyrin seems to be found more useful day by day. One of the most recent discoveries in connection with it is its favourable action on diabetes, which has lately been discussed in the Academy of Medicine at Paris. M. Panas found that daily doses of forty-five grains completely stopped the secretion of sugar, but that when the dose of antipyrin was decreased the sugar again appeared in proportion as the amount of antipyrin was diminished. In eighteen cases M. Germain Sée had found it to act favourably, the thirst and the symptoms in skin and nerve being lessened at the same time. M. A. Robin found that some starchy food might even be given with antipyrin, and that the administration of the drug was especially useful in cases which were of long standing, and in which the strict dietary was found very irksome. It appeared, however, to do more harm than good in cases where there was swelling of the eyelids and much emaciation and pallor. Antipyrin has also been found useful as an application to hæmorrhoidal ulcers.

A new reagent for detecting sugar in urine has been found in safranine, which is said to possess the advantage of not being decolorised by uric acid, creatinine, chloral, chloroform, peroxide of hydrogen, or the salts of hydroxylamine, all of which reduce Fehling's solution. Albumen, however, does decolorise it. The process recommended is to boil 1 cc. of the urine with 5 cc. of a solution of safranine of the strength of 1 in 1000, and 2 cc. of a solution of caustic potash. If decolorisation is effected the urine is diabetic, normal urine containing too little sugar to decolorise completely so much of the reagent. Chloral and chloroform do attenuate the red colour of the safranine, but never completely destroy it. Chloride of barium has been found by Dr. A. N. Hare to act as rapidly as digitalis in slowing the heart, contracting the blood-vessels, and increasing the blood-pressure. He states that it does not act as an irritant poison unless the dose be many times larger than the medicinal one. In five cases of vulvular affection of the heart, and two of functional disturbance of that organ, it was found to act beneficially by Dr. Hare.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. Kesteven, M.D.

A Case of Leontiasis ossium (Elephantiasis leonina). By B. Frankel (*Centralblatt für Chirurgie*, May 11th).—A girl, twelve years of age, had, until within the last four years, been in good health, save that in infancy she was ricketty. Her parents were both dead. Four years ago a tumour appeared on her forehead, hard and painful, in which state it remained two and a half years. At the date of the present observation two large hard lumps are visible on the forehead. The nasal processes of the superior maxillæ are on both sides so much enlarged that the ridge of the nose is not apparent. The zygomata processes are notably thickened and enlarged; the inferior maxilla is changed into a thick hard mass. The nose is entirely displaced by the thickening of the nasal processes of the superior maxilla, the septum, and muscles of the nostrils. The possibility of hereditary syphilis being suspected, iodide was given in full doses without any result.

On Drilling Capillary Holes through the Skull for the purpose of Exploring with the Hypodermic Needle. By Edmond Souchon, M.D., Louisiana (*New Orleans Medical and Surgical Journal*, May, 1889).—Possibly our readers may feel some surprise at the following statement by Dr. Souchon: "It is a recognised and accepted surgical practice to explore the brain in doubtful cases, just as the abdomen is explored by exploratory laparotomies in all cases of doubt when the doubtful points involve extensive and dangerous surgical procedures."

The object of the paper under consideration is the penetration of the skull to reach the brain and its interior. Heretofore the operation has consisted in trephining the suspected spot and exploring the subdural spaces and the brain, a proceeding very often used when too late.

"Fully impressed with the importance of early diagnoses in these cases of brain trouble particularly, it occurred to me that it would be possible to substitute for the apparently formidable application of the trepan the simpler, readier, less formidable, and less dangerous procedure of drilling through the skull a small hole, only large enough to introduce a hypodermic needle.

"With this idea in view I proceeded to test the idea practically on dogs. All the rules of strict antisepsis and of location of the spots for operation which have to be observed for trephining were followed here and strictly adhered to. The animals were placed under chloroform specially with the view of controlling them and keeping them perfectly quiet. The spot to be explored was shaved of its hair by a clip of the point of the scissors, and the place well washed and rendered aseptic. Then with a sharp-pointed aseptic bistoury a hole was made through the soft parts of the scalp. Through this the bit of a watchmaker's drill

was introduced, and as soon as it had reached the bone the instrument was held firmly pressed against the bone, and the sliding knot of the instrument worked, at first slowly, then swiftly, and again slowly as the bit penetrated the bone and came near the brain substance. As soon as the skull has been penetrated the drill is withdrawn, and a hypodermic needle with syringe introduced. The needle should be *twice as large* as the ordinary needle of our cases, so that if it should strike the thick pus of an abscess, or the thick fluid of a cyst, the calibre will be large enough to suck it, which it will surely not do if the needle is as fine as the one ordinarily used for a hypodermic injection.

"This procedure was performed twice on each side of the middle line of the skull on two dogs. Each time the needle was driven to the hilt within the tissues, the distance from the point to the hilt being about an inch and a half. The dogs were afterwards left to themselves. Both recovered rapidly from the effects of the chloroform, and behaved as naturally afterwards as if their skull and brain had not been perforated four times at different places.

"After a rest of two weeks the animals were again put under chloroform, and again the skull and brain were drilled and explored in four places. The result was exactly the same as at the first sitting. They recovered rapidly. The dogs were kept about the yard for several weeks to see if any remote effects would develop, but none were noticed."

The Pathology of Diabetes (*L'Union Médicale*, June 1st, 1889).—The two opposing theories of the pathogenesis of diabetes, the hypersecretion of sugar and its deficient consumption in the system, have formed the subject of a discussion at the Academy of Medicine, Paris. M. Albert Robin (after Germain Seé) supported the theory of hypersecretion, or exaggeration of the amount of sugar eliminated with the urine. M. Robin supported his opinion by an appeal to chemical biology, as advanced by himself and other experimentalists—MM. Lépine, Henoeque, Quinquam, Charcot, and Brouardel—and showed that diabetes coincides with certain organic activities, especially of the liver and nervous system. This view M. Robin holds to be confirmed by the effects of remedies. Antipyrine, quinine, arsenic, opium, etc., which control the organic changes in diabetics, diminish glycosuria, whilst those remedies which accelerate nutrition augment glycosuria. The former, therefore, should be prescribed, and the latter proscribed, in the treatment of diabetes. M. Bouchard adduces conclusions, from his own researches, entirely opposed to those of M. Robin.

Manual Evacuation of the Bladder. By Heddans (*Centralblatt für Chirurgie*, April 27th, 1889).—In cases of paralysis of the *detrusor vesicæ* the urine may be expelled by the following manipulation. The patient lying on the back, and both lower limbs bent upon the abdomen, pressure may be made by two hands over the region of the bladder, very gradually increased, the practitioner standing behind the patient. Under this method it often occurs that the urine will flow in a full stream. The operation can be practised in almost every case where catheterism is admissible. It is contra-indicated in inflammatory conditions of the abdominal organs and pregnancy; in such cases catheterism should be practised. Caution must be observed that the distended bladder be not ruptured.

The Importance of Manure Heaps and Poultry in the Etiology of Diphtheria (*New Orleans Medical and Surgical Journal*, May, 1889).—It has been recognised that diphtheria is *par excellence* the infectious disease of rural districts, and has given rise to suspicion that domestic animals, perhaps, suffer from an analogous disease, with which the human species can be infected. Poultry are subject to a disease, characterised by false membranes on the mucous surface and by visceral lesions, which present the greatest analogy to diphtheria.

Ferrand (*Thèse de doctorat. Lion, 1885*) has collected the statistics of this disease, and finds that in Scotland, 21.6 cases occur in urban, and twenty-seven in rural districts amongst every 100,000 inhabitants. The same holds for Prussia and Russia. Whilst about Lyons it is noticed that the country districts suffer most, the suburbs less so, and the urban districts least of all. This distribution is explained by the accumulation at the entrances of large towns of scavengers' refuse, manure, etc.; and that at the doors of the country houses there are manure heaps, where poultry affected with "pip" (pépie) spread the disease. Klebs noticed in 1883 that diphtheria breaks out, as a rule, the day after sweeping the streets of a town, and principally on the routes followed by the carts removing the refuse.

Hydrate of Chloral in Chapped Nipple (*St. Louis Medical and Surgical Journal*, May, 1889).—In the *Jürnal Aküsherstva i Jenskikh Bolenzèi*, December, 1888, p. 892, Dr. Ivan A. Mitropolsky, of Moscow, highly recommends chloral as an excellent local means for fissured and excoriated nipples. The latter soaked in a solution of half a drachm of chloral in three ounces of water. The compresses should be changed every two and a half or three hours. When a prolonged application is necessary, it is advisable to use a weaker lotion (half drachm to six ounces). The solution leaves a thin, whitish, firmly adherent film over the diseased surface, which does not disappear by suckling. Pain and tenderness are said to be strikingly relieved almost immediately; the lesions rapidly healing. The chloral compresses do not produce any bad effects of nurslings. [It surely does involve some risk to infants should chloral remain on the nipple?]

Spontaneous Cure of an Aortic Aneurism. Vagel, Freiburg-on-the-Elbe (*Centralblatt für Chirurgie*, May 25th, 1889).—The patient, a young man, in the spring of 1881, presented all the signs of an aortic aneurism. The size could not be precisely determined, but was apparently that of a large apple. The patient was confined to his bed through pain. All the means he had recourse to proving useless, he was admitted into the hospital, where it remained unaltered two months. Six months afterwards, under the "hunger-cure," improvement commenced; the pulsation subsided; the tumour gradually disappeared. Six years afterwards the patient is still in good health, and capable of work. [*Query*—Was the diagnosis correct?]

On Iodoform-ether Treatment for Tubercular Inflammation of Bone. By Dr. Dallinger, Bucharest (*Centralblatt für Chirurgie*) May 18th, 1889).—Dr. Dallinger finds results so different given that he has thought it desirable to collect some experimental observations with reference to the effects of injection of iodoform-ether in inflammation of the bones. Verneuil, he observes, states that the great advantage of this treatment is that it is free from danger. This statement has, however, been more lately controverted. In one instance the injection was followed by prolonged sickness and narcosis of several hours' duration. In another case the injection was followed by unconsciousness, cyanosis, and dyspnœa. The patient remained stupified for two days. The injection used in a case of lumbar abscess was followed by retention of urine thirty hours, and vesical catarrh for upwards of ten days. In a case of psoas abscess the injection was followed by a burning sensation which continued for one or two minutes, and was followed by a state of mental oppresion lasting four hours, when the pain in the lumbar abscess extended to the knee, continuing from eighteen to twenty hours, and the subsequent occurrence of headache and inclination to vomit. Dr. Dallinger holds, therefore, that the injection of iodoform-ether is free from danger.

Right-sided Aphasia in a Left-handed Person (*The Times and Register*, New York, May, 1889).—H. C. Wood, M.D. (*Medical News*), says this case has seemed to him worthy of being recorded on account of the curious relations between the habitual use of the hands and the speech function. The aphasia was the result of a lesion in the left side of the brain. Although the person was for the ordinary purposes of life left-handed, he had always written with the right hand; the centres connected with writing, in locating themselves, so to speak, had followed not the centres of habitual physical action, but the centres of speech function. In other words, this man possessed a brain in which the speech centres were highly developed in the left hemisphere, although the motor centres for the hand and leg, and probably for the face, were more highly developed in the right than the left hemisphere, and in which, when the art of writing was learned, the motor centres of the left hemisphere underwent special development, apparently on account of their close relations with the centres of speech.

Treatment of Rabies by Essence of Tansy (*Journal de Médicine de Paris*, June 9th, 1889).—M. Trasbot submits the following conclusions to the Academy of Medicine:—1. The essence of tansy injected into the veins of rabbits produces symptoms of rabies. 2. Ten per cent. of chloral destroys the poisonous properties. 3. The essence of tansy, injected around the point of injection, of virus of rabies, hinders the development of that disease in a certain proportion of cases (four out of six). It would seem, therefore, that this method is more efficacious than M. Pasteur's injections; at the same time they are confirmatory of the conclusions of M. Peyrand, that the artificial production of rabies prevents the evolution of the disorder.

Accidents due to Mussels, attributed to Microbes (*L'Union Médicale*, June 1st, 1889).—M. Lustig has found in the larvæ of mussels, that had been collected from stagnant waters, and which had caused death in from twelve to twenty-four hours after they had been taken, two different micro-organisms, the one harmless, the other pathogenic. These last produced no ill effect when injected into the veins, but caused death in from twelve to forty-eight hours when introduced into the stomachs of rabbits or guinea-pigs. M. Lustig finds that poisonous mussels have afforded homes to a dangerous microbe, but that the disturbances caused by these are owing to ptomaines of microbic origin rather than to any infectious malady.

On General and Cutaneous Poisoning by Petroleum (*Centralblatt für Chirurgie*, May 11th, 1889).—L. Levin gathers from literature, and from his own experimental researches, that petroleum can only, in a limited sense, be regarded as a poison, and that only when adulterated with other oils. The prolonged action of petroleum upon the skin of persons engaged in petroleum and oil-springs, induces an eruption of acne, distributed in all parts of the face, hands, arms, and legs, On the scalp the disease may be seen in various stages of inflammation and suppuration, intermixed with numerous black comedones, scurf, and sebaceous crusts. In America the author had seen this disease of the skin only among the workers in the refuse petroleum after the separation of illuminating oils.

A Peculiar Wart near the Ear (*Centralblatt für Chirurgie*, May 11th, 1889).—Hr. Barth relates the cases of a girl, twenty years of age, who presented on the edge of the lobe of her right ear a warty growth of the size and appearance of a nipple. On the bosom of the corresponding side a deeply-pigmented areola was to be seen. The tumour was erectile and wont to swell at the menstrual periods. A similar erectile state of the integuments of the glabella, but not to the same extent, also existed. The author is inclined to regard this growth as a supernumerary nipple. Notices of such growths on the anterior aspect of the chest, on the acromion, and on the upper thigh, have been given in the works of Leichtenstern and Neugebauer.

Trichorrhexis Nodosa (*St. Loais Medical and Surgical Journal*, May, 1889).—This disease, also known as Beigel's disease, is one which is rarely seen. Dr. Richard Cole Newtown describes a case in the New York *Medical Record*, and suggests as a more proper name, the term nodositas crinium. As is well known, the appearance presented in this disease is one in which the hairs appear to have nits upon them.

Trichorrhexis Nodosa, or Nodositas Crinium.

There is a broom-like fissuring of the shaft of the hair, which is well shown in the fig. The condition was first noticed in 1878, the affected hair being chiefly at the corners of the chin, and over the rami of the jaw, in a medical. The patient was neurotic, and he, as well as the reporter of the case, is inclined to regard the condition as of nervous origin, in this case at least.

[We have met with an instance of this disease of the hair closely analagous to the preceding, and in which the microscopical character was identical.—*Rep.*]

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

The Treatment of Disease by Bacteriotherapy. By Dr. Luis Manfredi (*Giornale Internazionale delle Sciencie Mediche*)—Continued from page 369, June, 1889.—In our last number a summary of part of Dr. Manfredi's paper was given, as far as the abortive experiments of Cavagni's in the treatment of tuberculosis by modified cultivations of its special bacillus. This idea has been carried a step farther by Professor Cantani, of Naples, and in the direction of a true bacteriotherapy—that is, the destruction of the disease germs by the introduction of others which indirectly attack them by contaminating the tissues they feed upon, and yet in such a way as to be harmless to the patient. The form selected was the *Bacterium termo*, which, from numerous experiments upon animals, had been found free from injurious action, either within their organism or that of man. And it is, moreover, easily obtained and cultivated in peptonised broth at the temperature of 37°C. The bacterium was isolated, cultivated for twenty-four, or, occasionally, for forty-eight hours, and then injected into the lungs of the patient by means of a hand sprayer.

The first case was that of a woman in an advanced stage of consumption, with a large cavity in the superior lobe of the left lung, a moderate temperature, severe cough, and copious expectoration, containing broken-down elastic tissue and abundance of the bacillus of Koch, and with progressive emaciation. All other treatment being suspended, inhalation of the atomized broth containing the *B. termo* was practised three or four times a day. The remedy, far from being disagreeable, was gladly welcomed by the patient, and did not occasion the slightest disgust nor inconvenience during the lengthened period of its employment. In a few days its advantages were evident, the expectoration lessened and finally ceased. At first the *Bacillus tuberculosis* was found in quantity in the sputum, then it was mixed with the *B. termo*, and at length the latter had entirely replaced it; the fever diminished *pari passi*, and the patient gained more than two kilogrammes in weight.

In succeeding cases Dr. Cantani obtained results equally brilliant—not, however, without some failures. A gentleman of Catania, after treatment in the city for only four weeks, returned home apparently cured; without feverishness, cough, or a trace of the bacillus; and he had gained in that time three kilogrammes in weight. Another patient, who was so ill that he had been obliged to give up all business engagements, was enabled, after nine weeks of the cure, to resume them, feeling perfectly well and as robust as before his illness. In his case, seven kilogrammes was the weight gain. Then there was the case of a poor woman, who had the disadvantage of being treated as an out-patient, with a large cavity in the left apex. The cough was relieved, the primary bacillus disappeared from the sputum, and the cavity, although it did not seem to lessen, became dry.

The announcement of these results was received in the scientific world with the deepest interest, and a number of experimenters sought, on the one hand to confirm, and on the other to discredit them by adverse criticism. Dr. Salama, of Paris, tested the treatment in a case of advanced phthisis in a woman who had suffered from broncho-pneumonia, followed by caseous deposits, extensive infiltration, and a small cavity in the left lung. The sputum contained abundance of *B. tuberculosis*, there was high fever with morning and evening exacerbations, extreme debility, colliquative diarrhœa, and great emaciation. All the more usual modes of treatment had failed, and bacillated spray was tried as a last resource. After five days it was found that the fever was high only once daily, and that the temperature was less; that the cough was diminished, and that the *B. termo* was replacing the *B. tuberculosis*. By the fifteenth day the latter had entirely disappeared from the sputa, the general condition of the patient had improved, the cavernous bruit was less marked, and the vesicular murmur could be heard in areas in which it had been previously absent. The patient was beyond cure, but the treatment had converted a distressingly acute case into one of a gentle progress to the inevitable end.

On the other side we have the experience of Sormani. He tried the system in three cases; in neither did it seem to do any good, and in one was distinctly injurious. He considers that the inhalation of the broth itself only acts palliatively in relieving the cough, dyspnœa, and difficulty in expectorating.

But it should be remarked that all the patients of Sormani, and, indeed, of all who have not obtained the same results as those of Cantani, developed a phenomenon entirely absent from the *clinique* of the latter—*the great repugnance they displayed to the treatment itself.*

For instance, amongst eight whom Dr. Ballagi so treated, not one was the better for it; the cough, the fever, and so on, were unaffected; and one was attacked by diarrhœa, which only ceased with the cessation of the inhalations; and the other lost appetite and complained so much of the nauseous taste and odour of the broth that it was obliged to be abandoned.

Stacklevicz and Iilipovitch report results more serious still. The former treated three patients by two daily inhalations of a pure cultivation of *B. termo*, diluted with warm water, and lasting six minutes. One of these died on the sixth day with symptoms of severe gastric disturbance; the two others endured the treatment for twenty-two and thirty-three days respectively, with no improvement whatever in the symptoms, but with loss of appetite, nausea, actual vomiting, and other stomach troubles. Iilipovitch treated six cases, using 5 c.c. of broth containing a pure cultivation of the bacillus, diluted with 10 c.c. of tepid water aromatized with essence of peppermint to cover the offensive odour, twice daily. Of these one become so much worse by the eighth day that the treatment had to be abandoned, and three others died between the fifteenth and twenty-fifth day. The remaining two fled from the hospital, after enduring the treatment for seventeen and forty-two days, preferring to die by natural means.

In complete contrast to this we have a paper published by Dr. Primrose Wells (of New York?), with the history of five cases with excellent results; he found in each considerable improvement, and that the treatment *relieved the diarrhœa and improved the appetite*, and that it is of great value in all but the most advanced cases.

There can be but one conclusion: *That they did not employ the same agent.* The bacillus used by Cantani in Naples, and Salama in Paris, was not the same as that cultivated by Stacklevicz and Iillipsvitch in Odessa; or, if the same, then it must have undergone some profound change in its characteristics. The identification of these minute organisms is difficult at all times, and made the more so by the fact that the form and even reaction is not permanent. *Bacillus termo* itself, for instance, may be colourless when cultivated in gelatine, and have its usual rose tint when grown on slices of potato. It is the bacillus *in excelsis* of putrifaction in one form, it is said, and has nothing whatever to do with it in another.

And it is hard to believe that under these latter conditions we are really dealing with the same body if reactions are to be relied upon for differentiation. And it is harder still not to believe or, at least, to avoid the suspicion that in these absolutely contradictory cases two bacilli were dealt with, and that the true *B. termo* was really only used in those in which the broth had become putrid and horribly offensive, because it is essentially the rôle of this very organism to set up putrifactive changes in liquids or bodies which can undergo that offensive form of metamorphosis. We are assured in each case that *pure* cultivations alone were used, but when dealing with bodies so extremely minute, and having such strong general resemblances, the possibility of mistake is very great, without resorting to the rather lame explanation that the action of the bacillus is made variable by environment.

Maffuci and Flora tried the experiment of injecting the *B. termo* into joints (of rabbits) which had been rendered artificially tuberculous, but with most unsatisfactory results. Nor were they more successful, when, in cases of phthisis, they injected it into the veins. These results might have been anticipated, however, from the fact that the *B. termo* is aërobic in its growth and not pathogenic, it can only live in the presence of free oxygen, whilst the *B. tuberculous* flourishes in closed cavities of the body, and seems to shrink and die in pure, dry air. In fact, the value of the dry air and "mountain cure" of phthisis really depends upon the inability of this horrible organism to endure healthy and cleanly conditions. It objects to wholesome surroundings and cold water as strongly as the workhouse tramp and the habitual criminal, and "should be treated accordingly."

Criticism founded on experiments as futile has been offered by Dr. de Toma (*Estudios sobre la tuberculosis*). "He isolated," says the author significantly, "*a* bacillus termo," but did not describe its properties, and cultivated it side by side with that of Koch in various delectable media, such as urine, blood-serum, ascitic fluid, pus and so on. And what may be called these strange bed-fellows seem to have got on very well together—there was food enough for all, so why should they devour one another? And then he came to the conclusion that under the very different lung conditions the result would be the same, and, therefore, the theory and reports of Cautain were alike unworthy of belief! But here we must repeat the happy phrase of Volkmann, in the last Surgical Congress—"Der mensch ist kein Reagensglas."—the human body is not a test tube, when we recall the fact that the *aspergillus niger* cannot be grown in a silver vase, although it does not seem to take up a particle of the metal; it is clear that the slightest change in what lawyers call the *locus in quo* may utterly stultify the most elaborately prepared experiments with bodies so capricious and sensitive as these. Nevertheless, the question of the antagonism of *B. termo* and *B. tuberculosis* is still a doubtful one.

But in another part of the same field, some investigations carried on almost contemporaneously by Emmerich and De Pawlowsky have given admirable experimental results. The former having accidentally noticed that a rabbit, which had been infected with erysipelas of the head, was proof against carbuncle, repeated the injections with several others, with the uniform result that the latter disease had no chance in the conjunction; the prophylaxis was complete. And even when the carbuncle had time given for its development in the unfortunate animal, and cultivations of the bacillus of erysipelas were then injected into the veins, the result was good, for six recovered out of ten so treated; whilst everyone of the rabbits infected with carbuncle and kept as control objects died.

Zagari repeated these experiments with guinea pigs as recipients, but found that the poison of erysipelas only retarded but did not arrest the action of that of carbuncle. But, then, he used attenuated cultivations of the former, and only illustrated the axiom that a retarded force can only act, *cæteris paribus*, as a retardant. But he was able to establish another instance of antagonism by shewing that injections of the virus of scarlatina really rendered the cavys refractory to that of carbuncle.

Chaveau and Toussaint believe that the immunity acquired after a single attack of certain diseases is a natural bacteriotherapy, in the sense that the first attack leaves in the body a product of bacterial life which is fatal to its reappearance. And the outcome of this theory is the injection of fluids which have been sterilized by exhaustion, that is, by growing in them the given germ until it will grow there no longer, filtering the liquid through biscuit porcelain and injecting it as a prophylactic. And this has been practically done in order to protect—and successfully—from swine-fever, typhus, septicæmia, and carbuncle.

How do they act? It will be better to reply, as the señorita did with such ingenuous astonishment when asked who was her father—"Quien sabe!" and the more so as hypothesis is the most unfortunate explanation imaginable in all scientific difficulties. The authors fill half a page with sentences punctuated with alternate notes of interrogation and admiration; we may content ourselves with saying at once, as I have ventured to suggest, and as they do at the end—We do not know. But, from the mass of evidence which has been collected, the doubt applies to the "how," scarcely to the fact.

SUMMARY.

1. The basis of the science of bacteriotherapy is an antagonism which exists between certain if not all bacterii.

2. That a nutritive medium in which our form has lived is inimical to the life of another or to the same organism.

3. The new science assumes two forms: (*a*) Bacterioprophylaxis, (*b*) Bacteriotherapia. The first, the best-known form, and already largely and successfully employed. The second demonstrated experimentally in animals, and which still awaits clinical sanction for use in man.

4. Experiments on the question of the prophylaxis conferred by substances generated by the vital energy of microbes in media in which they have lived, give the key to what may be in certain cases the mechanism of bacteriotherapia, and may foreshadow what it is destined to effect in the future. The problem is excessively difficult because we see that the minutest physico-chemical changes alter the course and the result of the struggle for existence on the bacterial battle-field.

III.—NOTES FROM FRENCH JOURNALS.

By H. R. HATHERLY, M.R.C.S.

Extra Uterine Pregnancy (*Le Progrès Médical*).—M. Terrier, of Bichat, has operated successfully on a case of tubal pregnancy; the diagnosis was easily made. From an operative point of view, tubal pregnancy may be considered a tumour of the fallopian tube, a special salpingitis, not less curable than the other forms. The adhesions of the fœtal cyst were most marked on the side of the placental adhesion. The operation was performed fourteen months after a false labour, which occurred exactly at the ninth month.

Primary Suture of the Bladder after Hypogastric Operation for Stone (*Le Progrès Médical*).—M. Pozzi operated for stone on a patient eighty years of age who was free from cystitis, selecting the high position. Three sets of sutures were inserted, first, catgut sutures to bring together the cut edges of the bladder, the wound having been made as small as possible; a second set of interrupted silk sutures brought together the mucous membrane, and a third set of sutures were used for the skin; a pre-vesical drain tube was used; no permanent catheter was left in the bladder, but the urine was drawn off every three hours. Suture is indicated when the bladder is free from catarrh; it obviates prolonged decubitis and pulmonary congestion in the aged. Aseptic catheterism prevents cystitis.

Creasote in Phthisis (*Le Progrès Médical*).—Creasote, first discovered in 1830 by Reichembach, was at first much prized as a therapeutic agent, but subsequently its use was almost completely abandoned. The difficulty of procuring a pure creasote probably led to this neglect, for often an impure compound of phenic acid, containing no trace of creasote, found its way into commerce instead of the pure drug. The researches of Drs. Bouchard and Guibert have again directed attention to the value of creasote as a therapeutic agent. Professor Bouchard has submitted ninety-three phthisical patients to treatment by creasote. He commences with a dose of three centigrammes daily, which was generally continued without variation during the entire period of treatment. In a few cases the dose was increased to sixty or eighty centigrammes, and even to one gramme. Out of these ninety-three patients, fifty-three received decided benefit from the treatment; whilst twenty-five appeared to be absolutely cured. A large number of practitioners have adopted this mode of treatment, not only in France, but in other countries. Pich, at Coblentz, and Sommerbrodt and Proentzel, at Berlin, have done so on an extensive scale, and the two have published, in 1887, the results of their personal experience. Sommerbrodt has, during the last nine years, submitted every phthisical patient who has applied to him to the creasote treatment; and, as he is a noted specialist, he estimates the number of patients at not less than 5,000. He prefers to administer the remedy in gelatine capsules, containing five centigrammes, each of pure creasote, because this method of administration is more pleasant and reliable. Sommerbrodt orders one capsule the first day, two the second, and then three until the end of the week; the second week he orders four daily; the third week five; and the fourth six. The patient should continue taking six capsule daily for several months. A large number of patients have taken in this manner from 600 to 1,200 capsules, and one patient took as many as 2,000. Very nearly the same treatment is carried out in France, and the results generally correspond with those obtained by Professor Bouchard.

The effects of the treatment are most apparent and rapid in early tuberculosis when there is catarrh of the apex, with induration. At

the end of a fortnight, sometimes earlier, there is diminished expectoration, and cough. After a few days, fever diminishes or subsides, and appetite, strength, and increase of weight soon follow. It is not uncommon to find that, after three weeks' treatment, the night-sweats are arrested. These remarkable effects of creasote in pulmonary affections might be expected, if we admit the beneficial effects of medicinal tar, which contains twenty-five per cent. of creasote.

Creasote, which has proved so successful in phthisis, gives still more rapid and marked results in less serious diseases, such as pulmonary catarrh and chronic bronchitis. According to Professor Bouchard, creasote has a special action on the pulmonary lesion, and Sommerbrodt, of Berlin, is convinced that creasote possesses a truly specific action. These experimenters have employed creasote to the exclusion of all other treatment, in order that its value might be better tested. It is of the utmost importance that there should be no doubt about the purity of the drug; in the Parisian hospitals the drug is chiefly administered in *Clertan's perles*. Each *perle* contains five centigrammes of creasote in etherised solution, enclosed in a thin transparent capsule, which is perfectly soluble. The solvent facilitates the diffusion of the remedy, and its conveyance to the lungs, as it is eliminated by the breath.

Dr. Richelot on the Treatment of Hydatids of the Liver (*L'Union Médicale*).—In 1885 Dr. Richelot first claimed the advantages of making a free incision into the peritoneum over Recamier's method, and the treatment by the large trocar. Notwithstanding the perfection to which Dr. Debove has recently brought the employment of puncture followed by injections of corrosive sublimate (one part in a thousand) Dr. Richelot condemns this plan of treatment in suppurating cysts and in living multiple cysts containing hydatids, but admits that simple puncture is satisfactory in simple cysts, although there is even then a possibility of inflammatory or gangrenous complications. Unfortunately it is often difficult to know whether a cyst is simple or not, although the presence of the tumour may be readily diagnosed, as also its form and size. After evacuation by puncture there will still remain points which are doubtful, and surprises may be frequent, as it is a blindfold sort of treatment. Dr. Richelot, therefore, holds that a free incision into the peritoneum is the best plan, as it allows the cyst to be examined and its nature to be distinguished. A large laparotomy is not always necessary, a small incision often sufficing. If adhesions are found, and the tumour is not very large, it may be only advisable to open it, without attempting its removal. The use of a large trocar is as serious as a small incision; but the latter enables the surgeon to see what he is about, and to evacuate any hydatids, and to completely cleanse the sac. A free incision also allows the removal of any prominent cyst, reaching a cyst when in the substance of the liver, and permits the introduction of such sutures as may be needed. The peritoneum is protected from the escape of fluid, and antiseptic treatment is easily carried out when the cyst has been reduced to a small size.

Dr. Richelot records two cases in which a free incision was necessary for diagnosis. The first case was that of a young woman, æt. twenty, having a tumour, very movable, and apparently not connected with the liver, so that at first it was thought to be a floating kidney, and afterwards a tumour of gall bladder, etc. Dreading the dangers of puncture, Dr. Richelot made a free incision on the 19th April, 1888, and came upon a mass of liver, like a floating supernumerary lobe attached to that organ by a large pedicle. This lobe had formed the tumour. As there seemed to be fluctuation, Dr. Richelot punctured, and hydatid fluid escaped. The cyst included in this lobe was opened, the cyst walls were extracted, and the liver was sutured. The patient recovered rapidly.

The second case was that of a woman, æt. twenty-five years, suffering from a smooth hard tumour, deep seated, and not very movable. The intestine was in front of the tumour, but was easily pushed aside. Diagnosis was very difficult, the disease having lasted twelve years. On the 20th April Dr. Richelot operated. He found a purulent cyst with thickened walls partly embedded in the liver. The wound was closed, and only a slight *cul de sac* remained after the operation. Recovery was rapid. In both these cases a simple puncture would not only have been insufficient, but also dangerous. Incision is the best and only really-curative method of treatment.

Inoculation for Charbon in Russia (*Revue Scientifique*).—During the three years ending 1888 Professor Cienkowspy performed 20,310 inoculations to prevent Charbon in sheep. The average loss was 0.87 per cent. in a flock of 11,000 sheep. The mortality, which had been usually from 8.5 to 10.6 per 100 fell to 0.13 per cent. after inoculation. In his experience, after thirteen months of preventive inoculation, eighteen sheep out of twenty were able to resist the action of the most virulent Charbon. These results are most satisfactory, and should much facilitate the introduction of preventive inoculations into Russian agriculture.

Congress of Hygiene and Demography, 1889 (*L'Union Médicale*).—At this, which is one of the many congresses which will be held at Paris during the exhibition, the following questions will be proposed by the committee for discussion: 1. Measures of administrative order, and medical steps to be adopted in different countries for the protection of health and life in early infancy. 2. The removal and utilisation of solid refuse (dunghills, mud, kitchen refuse, etc.) in town and country. 3. *Regime* and distribution of temperature in the house. 4. Action of the sun on pathogenic germs. 5. Protection of watercourses and subterranean streams from pollution by industrial refuse. 6. The health of seaports. 7. Dangers caused by alimentary substances derived from animals which contain toxic alkaloids. 8. Statistics and causes of death in towns.

Resection of the Rectum for Epithelioma (*Le Progrès Medical*).—Professor Terrier has removed, successfully, at the Hotel Bichat, a circular epithelioma of the rectum situated in the middle third. After the removal of the growth the two cut extremities were brought together by sutures placed in a circular form.

Gerlier's Disease or Paralysing Vertigo (*Le Progrès Médicale*).—Dr. Eperon reports two cases of this curious affection which have come under his notice, presenting, in addition to the ordinary disorder of vision, ptosis, diplopia, temporary obnubilation of sight and well marked ophthalmoscopic lesions. In the first case there was marked hypercœmia of the papillæ; and in the second there was papillary stasis although vision was normal. The general symptoms comprised slight headache and evidence of paresis in the muscles of the forearm. The ptosis and diplopia were both intermittent. Dr. Eperon thinks that the anatomical lesion at the root of Gerlier's disease is a meningeal hypercœmia, especially localised in the occipital, where the known cortical centres of vision of the movements of the eyelids, and probably also of the oculomotor muscles are situated. This hypercœmia is mostly temporary and intermittent, but it may often become permanent enough to react on the circulation of the optic nerves.

Caffeine in Acute Pleurisy (*France Médicale*).—The use of caffeine as a diuretic is commented on by Dr. F. Comby. He administers daily 1.50 grammes each of caffeine and benzoate of soda for a period of twelve days; diuresis results, and the disease disappears in three weeks. Caffeine is an excellent adjunct to milk diet, and is the most powerful and certain diuretic known. It is tolerated in doses of two grammes daily for long periods, provided the kidneys are sound. It is of great value in the last stage of heart disease, when digitatis has become useless. It should always be prescribed in moderately large doses (one to two grammes). Instances of intolerance are rare; the drug is quickly eliminated, and has no cumulative action like digitatis. M. Comby prefers caffeine to convallaria, sparteine, and strophanthus.

Vaccination and Re-vaccination in the French Army (*Revue d'Hygiene et de Police Sanitaire*).—A ministerial order, dated November 20th, 1888, relative to vaccination and re-vaccination in the army, contains an important innovotion; it is, that all soldiers forming the reserve and the territorial army must be vaccinated or re-vaccinated on the occasion of their being called together for exercise. In order not to interfere with military instruction, it has been suggested that the vaccination should only be performed on the eve, or even on the day, of their being disbanded. This innovation is justified by the fact pointed out by Medical Inspector Vallin, that small-pox is almost exclusively limited to the reserve and territorial troops, and that in the event of a general mobilisation of troope the ravages of small-pox would be terrible. During the siege of Paris, small-pox deprived the army of nearly 5000 combatants. In the present day, thanks to better regulations, the army will have a much greater immunity from this, the most preventable of all diseases, and a great step will have been taken towards rendering vaccination more general. The lymph which is to be generally employed is animal lymph, which will be supplied from five centres: Val de Grâce, and the hospitals at the military stations at Chalons, Bordeaux, Algers, and Philippeville.

The Identity of Erysipelas and Acute Lymphangitis.—According to MM. Verneuil and Clado, acute lymphangitis is only another form of erysipelas. Both are contagious, infectious, and parasitic. They are due to a special microbe, which can be readily distinguished and isolated, it may be cultivated, and animals can be inoculated with it. This microbe, which has been so far only discovered and described in erysipelas, is also found in acute lymphangitis, having the same characters and peculiarities. The two diseases ought therefore to be no longer considered distinct.

Dangers of the Treatment of Otorrhœa by Powdered Boracic Acid (*L'Union Médicale*).—It was first pointed out by Schwartze that the routine application of boric acid in cases of discharge from the ear is improper. The cases in which it may be safely employed are

those in which the lower portion of the membrana tympani has a large perforation, in which the the discharge is slight, and mucous membrane is moist. In other cases dry boric acid is either useless or dangerous, especially in acute suppuration of the drum, and chronic suppuration with perforation of Schrappells membrane. These views of Schwartze were fully confirmed at the Berlin Congress in 1886, by Lucœ, Trautmann, Gruber, and Guye, who all confirmed more frequent and severe inflammation of the mastoid apophysis, since dry powders had been applied in aural surgery. The Congress was unanimous in laying down the following rules for the treatment of the ear by any form of powder: 1. Before applying any powdered application, the ear should be thoroughly cleansed and examined carefully. 2. Powder should only be applied when the condition for the evacuation of pus are favourable. 3. Only very small quantities of powder should be insufflated at a time. Amongst the chief causes of the retention of pus are, viscidity of the discharge, narrowness, and unfavourable situation, of the perforation of the membrane, and the presence of any powdered substance in the external meatus.

Sulphate of Eserine in Chorea (*Journal de Médicine de Paris*).—Reiss recommends hypodermic injections of one milligramme of sulphate of eserine twice a day; he asserts that in many cases he has cured patients in from five to six days by this treatment. In the more serious chorea of adults he has not obtained such satisfactory results. He has also obtained satisfactory results from the same treatment in tetanus, paralysis agitans, spinal sclerotis, and in one case of hysteria in a man, a case which was accompanied by a remarkable exaggeration of all reflex movements.

Pilocarpine in Traumatic Tetanus (*Journal de Médicine de Paris*).—Dr. Cassati reports three cases of traumatic tetanus cured by the injection of large doses of chlorhydrate of pilocarpine. He inoculated with tetanus nine rabbits, and thanks to the treatment, all recovered except two. Recovery was rapid, but in every case there was a relapse after the first disappearance of all tetanic symptoms. This relapse always terminated in recovery or death. The symptoms disappeared a few hours after the injection, with the exception of trismus, which continued until recovery. Animals inoculated with tetanus bear doses of pilocarpine which would infallibly destroy healthy animals.

Diabetes (*Journal de Médicine de Pais*).—Dr. Dujardin Beaumetz differs from the views enunciated by Dr. Worms, namely, that diabetes does not shorten life. He has fought against the milk regime, which he considers one of the very worst methods of treating diabetes, he also allows potatoes. Dr. Germain Sée, who was at first doubtful whether normal urine contained sugar, has, in conjunction with Dr. Hardy, shown by experiment that sugar is a normal constituent of urine, as was also proved by Claude Bernard. As regards treatment, Dr. Germain Sée fully agrees with Dr. Beaumetz.

Paralysis Agitans and Revolving Mirrors (*Journal d'Hygiene*).—It is generally admitted that the singular disease first described by Parkinson in 1817, and which is characterised by a rhythmic trembling, which is continuous and progressive, and which, sooner or later, is accompanied by muscular weakness, is most rebellious to all treatment. Until quite recently the prognosis in this disease has always been most unfavourable; whilst therapeutic remedies in paralysis agitans have been futile. The great variety of treatment advocated sufficiently proves how unsatisfactory the results. There is now, therefore, considerable astonishment at the results obtained by Dr. Luys, from the employment of revolving mirrors. On the 22nd March, 1889, Dr. Luys exhibited before the Medical Society of Hospitals, a man, aged forty-four, suffering from typical paralysis agitans. For four years the patient had been unable to carry a glass of water to his lips; he could not button his own clothes, or write, and his speech was hesitating and jerky. Dr. Luys decided to attempt hypnotic treatment, with revolving mirrors. At the fourteenth sitting, the improvement was considerable, the trembling of the hands had so far diminished, that the patient could carry a glass half filled with water to his mouth, although before it had been necessary to place the glass on a chair, and kneel down before it to lap the liquid without touching the glass with his hands. It is interesting to know that a morbid condition of long standing, and supposed to be incurable, can be rapidly and notably improved by the simple physical action of mirrors in rotation, placed before the eyes.

The patient received no hypnotic suggestions during the first few days, and it was only when considerable improvements had been manifested, that rarely some suggestions not to tremble were made. However, the really efficacious action of this treatment reminds us of the strange influence of rapid and successive luminous vibrations at first on the eyes, and then on the nervous centres. This influence was not very marked at the earlier sittings; but accumulating day by day, it finally induced a condition of collapse, coupled with a peculiar sleep, a sleep which might be called mechanical, possessing sedative and therapeutic qualities of a power as yet unknown. But one solitary fact is not sufficient. The case reported by Dr. Luys opens out a new field, and it is to be hoped that further observations will confirm the real power of hypnotic treatment, and give into our hands a new weapon with which to combat a disease, hitherto deemed incurable.

IV.—NOTES FROM RUSSIAN, POLISH, BULGARIAN, AND SWISS JOURNALS.

By VALERIUS IDELSON, M.D., BERNE.

Hydrochlorate of Pilocarpine as a Specific for Hepatogenous Jaundice.—In the Polish monthly *Nowiny Lekarskie*, May, 1889, p. 230, Dr. Wl. Witkowski (pronounced "Vitkovskee"), of Ostrov, writes that hydrochlorate of pilocarpine represents a specific remedy for simple hepatogenous jaundice, except cases of malignant or benign new growths of the liver. He uses the drug hypodermically, in the shape of a two per cent. solution, which he injects a (Pravaz) syringeful once a day in delicate persons, and twice daily in stronger ones. From the fourth or fifth day of the treatment the individual dose is increased to one-and-a-half syringeful. All subjective symptoms (intolerable itching of the skin, hepatic and gastric pain, etc.) are strikingly alleviated even after the very first injection. Catarrh of the stomach, duodenum and biliary ducts and jaundice disappear in from one to three weeks. The most striking results are observed in cases of inveterate severe catarrhal jaundice of several months' standing, in which all ordinary means fail to bring any relief to itching, hepatic colics, and gastric spasms. On the other hand, in such cases where the pilocarpine treatment does not bring about any improvement in the course of from ten to fourteen days, the practitioner can be pretty sure that he has to deal not with simple icterus, but with a case of malignant disease of the liver, as a subsequent course of events will prove. Hence, pilocarpine may be conveniently used as a means for the differential diagnosis. The drug may be resorted to in all cases where the patient's heart is found to be more or less sound. Dr. Witkowski's statements are based on nearly thirty consecutive cases of jaundice treated successfully by the remedy during the last three years. One case—his first one of the kind—is adduced in detail. It refers to a woman of forty-one suffering from severe nephritis complicated with wandering enlarged liver, gall-stones, ascites, œdema of the lower limbs, and recurrent jaundice of four years' standing. The patient had been previously treated more or less unsuccessfully by Carlsbad waters, Priessnitz's compresses, abdominal belt, etc. Pilocarpine was resorted to in the dose of one-sixth of a grain, once or twice daily. The results surpassed all expectations. In three weeks the patient was practically well. The woman enjoys good health ever since (three years have elapsed).

Pigmentation of the Skin from the Internal Use of Arsenic.—In the *Correspondenz Blatt fuer Schweizer Aerzte*, June 1st, 1889, p. 347, Dr. E. Haffter, of Frauenfeld, the editor, draws attention to a peculiar intense dark discoloration of the integuments, which sometimes follows a prolonged internal use of Fowler's solution. He adduces two instructive cases of the kind from his own practice, both of them referring to ladies. One of them, æt. thirty, suffering from some intensely itching, inveterate rash, was treated with the liquor in ascending doses, from five to eight drops, three times daily, for about eighteen months (with occasional short intermissions). During the next three years the lady continued the treatment by herself, without consulting any doctors. When seen again recently by the author her complexion was strikingly dark; while her neck, body and extremities were found to present precisely the same appearance as observed in severe cases of Addison's disease. Any other accessory symptoms, as occasionally produced by arsenic, were absent. The other case refers to a patient of thirty-five, suffering from squamous eczema of the head of many years standing. The solution was ordered in ascending doses, from four to eight drops, three times a day. By the end of four months her face became dark, while her neck and body proved to be studded with "positively astounding pigment deposits." At the same time there were also present such toxic symptoms as nausea, abdominal pain, etc. It is interesting to note that the first patient's sister suffered during her pregnancy from an unusually extensive and intense pigmentation of the skin. Hence the supposition is justified that in the patient's family there might exist an inherited special tendency to pigmentation, determining a high sensitiveness to all agents promoting the formation of pigments in the body. Pointing to cases of the arsenic exanthema described by several British and American authors, Dr. Haffter invites his readers to communicate their own experience concerning the exceedingly unpleasant complication in question.

Calomel as a Diuretic in Dropsies and Exudative Inflammations.—Following the suggestion of Professor D. I. Koshlakoff, Dr. Vladimïr F. Büshüieff, house physician to his clinic (*St. Petersburg Inaugural Dissertation*, 1888, pp. 80), has carried out thirty observations on twenty-six patients in order to determine the value of calomel as a diuretic remedy. The drug was given usually in three-grain doses (with sugar or Dover's powder, in wafers), three times a day, for three or four consecutive days, but sometimes for seven, and once even for twelve. Of twenty-six cases, twenty referred to dropsies (eight of cardiac origin, six of renal, five of hepatic, one of leukæmic) and seven to exudative inflammations (three of pleurisy, two of chronic peritonitis, and one of pericarditis). The outcome of the observations may be briefly summarised as follows: 1. Calomel, given internally in large doses, represents a powerful diuretic means. 2. In a majority of cases the diuretic effects become marked on a third or a fourth day of the administration, and last for three or four days; in some cases for from five to eight, but exceptionally only twenty-four hours. 3. The daily quantity of the urine amounts sometimes to three or four litres (even to 4,350 cub. cc.), but usually is less considerable. 4. The proportion of solid constituents in the urine sometimes increases, but in other cases decreases. 5. The diuretic action of the drug seems to depend upon a stimulating influence on the secretory elements of the kidney, as Fuerbringer has first pointed out. 6. Calomel acts best in anasarca and ascites of cardiac origin. 7. In renal dropsies its action is less pronounced and less constant. 8. In hepatic dropsies it is still less marked than in the preceding cases, and is altogether "capricious." 9. The same holds true in regard to cases of inflammatory effusions. 10. In spite of all usual precautions (washing out the oral cavity with a solution of chlorate of potash, cleansing teeth, etc.), the use of calomel is invariably accompanied by toxic symptoms, which mostly are of a severe character. [As a matter of fact, only in two of 26 cases the accessory effects were limited to a slight tumefaction of the gum and salivation. In ten, moderate stomatitis, with ulceration of the gum and purulent discharge developed; while in 7 there was observed intense stomatitis, with extensive ulceration of the buccal mucous membrane, and enlargement of adjoining lymphatic glands. In every one of the patients the drug gave rise to diarrhœa with three or four, but sometimes with five, seven, and ten stools a day.] 11. In view of the facts, the administration of calomel as a diuretic is justified solely in such cases where all other diuretic means prove inactive, or where a rapid removal of dropsy is indicated more or less urgently. 12. On the whole, as far as the therapeutics of dropsies is concerned, calomel should be relegated to the modest place which it has occupied previously to its coming in fashion. [Professor V. A. Manassein (*Vratch*, 1888, No. 1, p. 12) has also tried calomel as a diuretic in two cases of cardiac disease, and in one of ascites. In all the three patients there developed severe toxic symptoms, which induced him to give up any further administration.]

On the Influence produced by Perspiration on the Gastric Juice and Urine.—In the *Vratch*, No. 20, 1889, p. 455, Dr. Viktorin S. Grüzdeft describes his interesting experiments on seven persons, undertaken in Professor V. A. Manassein's clinic, in order to study the changes in the gastric juice and urine, produced by profuse sweating (the latter was induced either by means of an ordinary hot bath, or by a Russian vapour one, or a "sweating chamber.") The author arrived at the following conclusions: 1. The acidity, digestive power, and total quantity of the gastric juice, as well as the proportion of free hydrochloric acid therein, are distinctly decreased under the influence of perspiration. [The total loss of the bodily weight after sweating varied in individual observations from 120 to 1020 grammes.] 2. The proportion of pepsine, however, remains apparently unchanged. 3. The intensity of the changes is determined (*a*) by the patient's general state [in healthy persons the alterations are less pronounced than in patients suffering from chronic gastric catarrh]; (*b*) by intensity of perspiration [the more intense the perspiration is the more considerable is the decrease of the acidity]; (*c*) by the time elapsing between sweating and secretion of the juice [the longer the interval is, the larger is the decrease.] 4. The alterations occurring in the juice may last from several hours to two days. 5. The acidity of the urine remains unchanged. 6. In view of the facts *sub*, the conclusion is justified that gastric disturbances in phthisis may be caused, to a certain extent, by profuse night sweats; and that gastric affections widely prevailing amongst soldiers may be dependent—at least partially—upon profuse sweating during marches, exercises, etc.

Creasote in Pulmonary Phthisis.—In the Bulgarian bi-weekly, *Meditzinski Preglëd*, 1888, August 30th, p. 89, Dr. Brzezinski (pronounced "Bjezinskee;" a Polish name), of Plevna, details his experience concerning the treatment of pulmonary phthisis by creasote (*creasotum e bitumine fagi*). He lays down the following propositions:—1. Creasote is a very good tonic and antiseptic means, which alleviates cough and expectoration, lowers the temperature, and, before all, improves the patient's general state. 2. To secure satisfactory results, however, it is necessary to use the remedy in large doses for a prolonged period (for many months). 3. The best results from the drug are obtained in incipient phthisis, and in cases free from fever. 4. Patients tolerate the remedy very well. Any unpleasant accessory effects are exceedingly rare, and, when present, depend upon the employment of an impure preparation. 5. Hæmoptysis does not contra-indicate the use of creasote. In the presence of tendency of blood-spitting it is useful to add iodoform. 6. Most conveniently the drug may be administered in the form of pills, after Sommerbrodt's formula which is this:

℞ Creasoti e bitumine fagi ..... 5 grammes.
Balsami tolutani 20.0
Excipientis amari ..... q. s.
Ut f. pill. No. 100.

D.S.—To take one pill on the first day, two on the next, three pills daily for a week, four pills daily for the next week, etc., until nine pills (0.45 of creasote) a day are reached.

Cases of Rudimentary Uterus in Bulgaria.—At a meeting of the Sophia Medical Society, Dr. Shishmanoff has communicated (*Meditzinski Preglëd*, Nos. 13 and 14, December, 1888, p. 224) two cases of arrested development of the womb. One of them refers to a girl of five, in whom "not a trace of the uterus could be detected by any method of examination" (what for the child was subjected to that sort of exploration is not stated). Another case is that of a generally well-developed married lady, aged twenty-two, who had never yet menstruated, though had had some molimina (pelvic pain, etc.) every month. On examination, the womb was found to be exceedingly small (*uterus fœtalis*). A thorough dilatation of the uterine cavity was performed by the author, with the result that a few days later some bleeding occurred. Dr. Shishmanoff, however, is wise enough to state that he is not yet prepared to determine whether the hæmorrhage was a regular menstruation, or simply a metrorrhagia caused by his manipulations.

In the course of a discussion following Dr. Shishmanoff's communication, Drs. Bradel and Molloff stated that they had happened to meet with several instances of rudimentary womb. Dr. Matintcheff related a case of congenital absence of the uterus (the vagina ending in a *cul-de-sac*) accompanied by atrophy of the nipples and areoles. Drs. Khakhanoff, Khristoff, and Mïrkoff adduced each a case of complete absence of the womb, Dr. Mïrkoff's patient being a child with atresia of the vagina.

Quinine and Mercury in Syphilis.—In the Polish weekly, *Gazeta Lekarska*, No. 19, 1889, p. 388, Dr. O. Dymnicki, of Büsk, publishes a very interesting paper on the treatment of syphilis by mercurial inunctions, and a simultaneous internal administration of quinine in the daily dose of from 1 to 1½ grammes. The paper is based on 178 consecutive cases, of which twelve (eight successful, four unsuccessful) are adduced in detail. The main deductions drawn by Dr. Dymnicki forms his elaborate observations may be given here as follows:—1. In a certain, fairly considerable proportion of cases of severe syphilis, the mercurial treatment may be with great advantage supplemented by the internal use of quinine. 2. In such cases, the drug strikingly improves the patient's subjective state and appetite, lowers the temperature, increases the bodily weight, removes salivation and stomatitis, and promotes healing of ulcerations. When the drug is discontinued, all symptoms readily grow worse to improve again as soon as the administration of quinine is resumed. Moreover, the latter allows to increase the dose of mercurial salve. 3. In some cases, however, the administration of quinine is of no use whatever. 4. The drug proves of great service, especially in cases of severe ulcerative syphilis, characterised by considerable oscillations in the temperature, pulse, and, before all, bodily weight, supervening under the influence of the mercurial treatment. In such cases where the oscillations are pronounced comparatively slightly, quinine remains useless. [As a matter of fact, in the eight cases treated by quinine successfully the oscillations in the temperature amounted to from 1.5° to 2.5° C.; in the pulse, to from twenty-six to thirty-six beats per minute; in the body's weight from ten to fifteen pounds. In the unsuccessful cases the respective figures were 0.5° to 1.2° C.; eight to eighteen per minute; three or four pounds.] 5. The former (successful) cases are characterised essentially by an accelerated (*przyspieszona*) systemic metabolism; the latter (unsuccessful) by a retarded (*opieszala*) one. 6. A beneficial action of quinine in the first category seems to be dependent upon its manifesting an inhibitory or retarding influence on the systemic metamorphosis. Hence, the alkaloid strengthens the patient's system and enables it to tolerate larger doses of mercury. 7. In such cases, in which the tissue metabolism is retarded, and which are characterized,

beside but slight oscillations in the bodily weight, etc., by a more or less constant headache (increasing from constipation), considerable enlargement of many lymphatic glands, and by fairly frequent salivation, the mercurial treatment should be supplemented not by quinine, but by some means strongly promoting the systemic metamorphosis.

Another "Pleasant" Mode of taking Castor Oil.—In the St. Petersburg weekly *Meditzïna*, No. 16, 1889, p. 7, Professor Tïmofëi J. Bogomoloff, of Gatchïna, writes that he has succeeded at last to discover a pleasant method of the internal administration of castor oil. The mode is this: he takes one and a half ounce of white gelatine, and dissolves it in cold water, or in cranberry water (*klükvennyi mors*, a favourite sour beverage in Russia.) Then he adds six ounces of castor oil and half an ounce of purest glycerine, and gently heats the mixture until a thick homogenous mass is obtained. The latter is mixed with half an ounce of white sugar, ten drops of *oleum naphae*, and twenty drops of peppermint oil. The whole is then poured out in a shallow mould, and left to congeal. In conclusion, the mass, which has the consistence of a firmish marmalade, is cut into twenty-four tablettes of equal size, containing each exactly two drachms (one teaspoonful) of castor oil. The preparation may be at will used as such, or dissolved in a cupful of hot water. In either of the cases it is said to represent a very pleasant article, most completely disguising the taste and flavour of the oil. In fact, many persons experimented upon could not make out what it might be. The purgative action of the "marmalade" or emulsion (which is very fine) ensues in from two to five hours after the ingestion of a dose. The "marmalade" keeps very well.

Impaction of Vesical Calculus in Infantile Urethra.—In the St. Petersburg weekly *Rüsskaia Meditzïna*, No. 14, 1889, p. 221. Dr. Gëorgy J. Kramarenko, of Ooman, describes the case of a healthy and strong boy, æt. two, who was brought to him on account of retention of the urine, caused by the impaction of a vesical stone in the prostatic portion of the urethra, and vainly treated with catheterisation by other practitioners. On examination, the bladder was found greatly distended, the meatus as well as anterior part of the penis reddened and swollen. The poor child was suffering from incessant agonising tenesms; on straining, only a few drops of the urine escaped. After prolonged attempts (under chloroform), Dr. Kramarenko at last succeeded to pass a metallic catheter into the bladder, and drew out several tumblerfuls of a clear, but highly concentrated urine. The stone, however, could not be pushed in either direction. For a week or so, catheterisation was made twice daily. Ultimately, to relieve the boy's unspeakable suffering, the author extracted the calculus (of the size of a small bean) through a perineal incision, to the left from the raphe. Hæmorrhage was trifling. The wound was plugged with iodoform gauze, and a catheter introduced into the bladder for twenty-four hours. On the next day, the child could freely pass water *per vias naturales*, the lips of the wound having glued together. On the fourth day, fever and purulent discharge from the urethra appeared, which, however, readily yielded to a purgative, and intra-urethral irrigations with a boracic acid lotion. Shortly afterwards, the wound soundly healed. Dr. Kramarenko asserts that cases of impaction of calculi in the urethra occur in reality by far more commonly than they are reported in literature. As a rule, the stones get jammed about the external orifice of the urethra, and sometimes require a bloody dilatation of the latter.

V.—OBSTETRICS AND GYNÆCOLOGY

Does the Menstrual Flow Originate in the Tubes? The Act of Menstruation Viewed from an Inverted Uterus. By E. J. C. Winard (*Gaillard's Med. Jour.*, May, 1888).—Margaret, æt. about thirty years, multipara; occupation a basket weaver; was delivered of a child five months before at term. The placenta was adherent, and the attendant pulled it away, leaving the vagina filled with a mass supposed to be a tumour. When she applied to Dr. H. for treatment, she was much reduced and very nervous. Upon examination the uterus was found to be inverted. Proper treatment was given, and when she was able a reduction was attempted, but failed because the patient refused to take an anæsthetic, and was too feeble to have it done without. She left the place, but returned a few days before my visit. She came to the office complaining of hæmorrhage. It was found that she had been menstruating for four days for the first time in five months, or before the birth of the child, and that she was flowing more freely than was her normal habit; had much pain, nervousness, and prostration. Upon examination I found the diagnosis of inverted uterus to be correct. The left ovary filling Douglas' cul-de-sac, and the right one lodging above the ring formed by the neck of the uterus. The tubes were dragged down, and put on a strain in the sac formed by the peritoneal surface of the inverted uterus. The surface of the tumour was of a dark-red colour, studded with points of a darker hue, and resembled the tongue of a bad case of scarlet fever, without the creamy coating. From this surface no discharges to speak of could be wiped away with cotton; but from the tubes a dark healthy menstrual flow passed out drop by drop, and when the tubes were pressed upon would form a stream for an instant. The openings of the tubes of this inverted uterus were dilated, so as to admit the head of a small uterine sound. With treatment she recovered from this attack, flowing several days longer than usual, and I hope to hear further of the case from observations made at future monthly periods.

A Case of Fibroid Tumour Causing Intestinal Obstruction. By John Homans (*Boston Medical and Surgical Journal*).—The patient had suffered from two attacks of intestinal obstruction, one having been accompanied by stercoraceous vomiting during gestation, spontaneous recovery occurring at both times. The presence of a fibroid tumour posterior to the uterus was recognised, but nothing was done on account of the pregnancy. Soon after delivery, which was normal, a third attack of obstruction occurred, finally causing the death of the patient. At the autopsy the tumour was found to be entirely separate from the uterus, and to be attached firmly to the omentum and intestines, receiving its blood supply entirely through these adhesions, which formed foramina between the viscera and the tumour through which spaces portions of the gut had passed and become constricted. The tumour weighed two pounds and a half, and was of a dumb-bell shape. The exhibitor considered the case one which presented a strong argument against the marriage of women with fibroids, and for the removal by abdominal section of superitoneal uterine tumours.

Pelvic Measurements and their Importance in Obstetric Practice. By H. T. Pershing (*American Journal of Medical Science*).—This study of pelvic measurements seems to have been drawn out by the recent revival of the Cæsarean section. The one thing that the advocates of the improved operation most earnestly insist upon is that it be deliberately chosen beforehand, and that no attempt be made to deliver in any other way. The choice of so serious an operation implies a careful examination of the pelvis before labour begins, or as soon after as possible. As a matter of fact, skilful obstetricians have attended women in confinement, with no apprehension of the case being an unusual one, have tried forceps, turning, and craniotomy in succession, and after the death of the patient, have regretted that Cæsarean section was not resorted to in the beginning. It cannot be doubted that in many such cases a correct or even approximately correct knowledge of the pelvis would often lead to better treatment. In order to form an independent opinion as to the value of such measurements as can be taken during life, the author has recently made careful measurements of ninety dried pelves, found in the various museums of Philadelphia. In this number are included twenty plaster casts made by Tramond, of Paris. The author then discusses the history of pelvic measurements, method of taking these measurements, and the deductions to be drawn from the results. He enters into the full detail of the subject, and presents it in its complete aspect.

On the Prevention of Puerperal Fever. By W. W. Jaggard (*Journal American Medical Association*).—The principles upon which the prevention of puerperal fever depends are few and very simple. As summarised by Crédé, there are only two; they are: (1) prevent, as far as possible, lesions of the genital tract; (2) prevent the infection of the lesions that are inevitable. The extent of the necessary puerperal wound includes the entire area of the endometrium that contributes to the formation of the decidua; the neck of the uterus, particularly the os externum; the vagina, denuded to some degree of its epithelium by the friction of the passage of the child. The puerperal wound, thus marked out, cannot be prevented, but its limitation to these boundaries can be secured, in the large majority of normal cases, by attention to the following precautions. 1. Let the diagnosis of presentation and position, and of the stage of labour be made, as far as possible, by the methods of physical examination of the abdomen. Limit to the minimum the number of examinations *per vaginum*. 2. Let the bag of waters rupture spontaneously. The intact state of the bag of membranes must be preserved for at least two reasons: to secure perfect dilatation of the cervix uteri, and to prevent the access of air and other carriers of infection to the cavum uteri. 3. Preserve the perineum and vulvar orifice. If a laceration does not occur, or if episiotomy is done, unite the rent in the one case, or the incision in the other, immediately on the conclusion of labour. 4. Refrain from digital dilatation of the cervix and exhibition of ergot. 5. Deliver the placenta by Crédé's method. The second principle by which puerperal fever may be prevented is to prevent the infection of the lesions which are inevitable. This infection the author considers may occur in one of two ways: contact infection and indirect infection, or so-called self-infection. The surgeon sterilizes

the field of operation, the immediate environment, and everything that comes in contact with the wound, and the obstetrician acts under the same principles. The sterilization of the hands, instruments, appliances, and napkins, and the parts of the parturient woman are of course insisted upon. The author recommends during the first two days of the puerperium gentle friction of the fundus uteri twice daily, to aid in securing firm contraction and retraction, a practice which originated in Carl Braun's clinic.

The Spirit of the Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND (Dr. Lombe Atthill, president). **Prolapse Uteri treated by Massage and Pelvic Gymnastics.**—Dr. ALFRED SMITH read notes on the treatment of six cases by Thure Brandt's method of massage and pelvic gymnastics. "The treatment," he said, "of this special disorder consisted of (1) the lifting of the uterus; (2) in massage of the uterus and its ligaments; (3) in forced separation and forced closure of the knees; and (4) in tapaotlement of the lumbar and sacral vertebræ.

CASE I.—Mrs. C——, æt. fifty-four; five children; came to the Rotunda Hospital, January 16th, 1888, suffering from prolapsed uterus. Her health was good up to a year ago, when she began to suffer from pains and a great sinking sensation in the pelvis. This was followed in a short time by the uterus protruding outside the vulva. She never wore instruments. Her youngest child is fifteen, and she is twelve years past the change of life. The anterior and posterior vaginal walls were, on examination, quite dry and parchment-like; the cervix was eroded and weeping; the uterus was nine centimètres long, lying outside the vulva, easily reducible; ovary lying in *post cul de sac*. The treatment consisted of uterine elevation, massage, and pelvic gymnastics. January 17th: slight prolapse of the vaginal walls on coughing. January 18th and 19th: ditto. January 21st: the uterus retroverted to the second bone of the sacrum; no prolapse on coughing; has no pain in sacral region; feels comfortable and firm, with no tendency to prolapse, although suffering from a bad cough. January 23rd: uterus again prolapsed. January 24th: uterus retroverted to the first sacral bone; no prolapse on coughing. January 26th: ditto. January 28th: ditto. February 2nd: uterus has not come down since last day; feels quite strong, and in every way better, except for slight pain in the sacral region; uterus retroverted to the first sacral bone; exhibited patient to Dr. Macan, in surgery; he got her to cough, without any prolapse, even of vaginal walls. February 4th, 5th, and 8th: ditto. February 12th: ditto. August 2nd: patient stayed away contrary to my wishes. I exhibited her to the class. She said her womb had not come down since February 2nd, and she felt quite strong.

Mr. G. SMITH gave the notes of five more cases treated on the same lines, all of which seemed to gain relief by the system; but whether the cures were radical or not cannot be said, as most of them did not return to the hospital again.

Dr. WILLIAM BAGOT said, having seen Dr. Smith's cases, he for sometime practised the method himself with varied success; he thought the failures were due in great part to lack of patience and skill in carrying out the treatment.

Dr. MACAN exhibited a solid ovarian tumour, with microscopic specimens. It was a tolerably-rare specimen. The patient was a woman, æt. sixty-eight. She was sixteen years past the change of life, but had lately been attacked with menorrhagia. He found that she had a retroverted or retroflexed uterus, with a pelvic tumour the size of his closed fist. On a bimanual examination the tumour slipped into the hollow of the sacrum, and it could afterwards be moved up into the pelvis, so that it was evident the pedicle was long. They scraped out the uterus at the hospital, which had the effect of curing the menorrhagia. Afterwards she came to him from time to time, and each time appeared to be losing flesh. Then the tumour became abdominal, and she began to grow uncomfortable. It was still very hard, but quite movable. That day week he removed the tumour, which was about the size of a child's head. There was no difficulty in tying the pedicle. There was one point of moment about the matter. He had been looking at this tumour for two years without interfering with it; and if it should be a carcinoma the case would certainly be sufficient to make them all careful how they left such tumours alone so long without operating at any time when there would be a chance of preventing the disease from spreading.

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ROYAL MEDICAL AND CHIRURGICAL SOCIETY (Sir Edward H. Sieveking, M.D., president). **On the Presence of Free Uric Acid in Urine as a Test of the Existence of the Gouty State.**—Dr. ARNOLD SCHETELIZ, of Homburg, proposed a test for gout, founded on the quantity of free crystalline uric acid present in the urine of patients affected with any form of gouty diathesis. This free uric acid, as distinguished from the one combining alkalines in the shape of urates, had the tendency, as was known from the growth of renal calculi, to crystallise out and conglomerate with any other crystalline uric acid already present. The practical demonstration of the quantity present in each case consisted in fully determining the whole quantity of uric acid contained in the patient's urine, and then allowing an equal proportion of urine to pass through a filter charged with uric acid, the "lithic filter." In the case of free uric acid being present, this remained on the filter, while the urates passed through unaffected. The author had analysed fifty-five cases, out of which twenty-eight were pathological, and had found from twenty-five to fifty, and more per cent. of the total uric acid to be in the uncombined crystalline form in the urine of patient's who were either manifestly troubled with some form of uric gout, or had been so previously. It had been even possible for the author—and this was the main object of this communication—to make this test available to distinguish between cases of genuine and spurious gout. This form of uric acid could, by treatment with baths alone, or with alkaline waters, or both combined, be diminished for awhile, but would, in most cases, reaccumulate.

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CLINICAL SOCIETY OF LONDON (Christopher Heath, F.R.C.S., president). **Sclerema Neonatorum and Œdema Neonatorum.**—Dr. STEPHEN MAKENZIE showed two children, one subject of sclerema neonatorum, and the other of œdema neoatorum. The first infant was six weeks old. Its condition was noticed when three weeks old, but might have existed prior to this period. The affection was most marked over the back and over the loins, extending round to the shoulders on each side, and almost symetrically down the thighs. The second case was a baby only three weeks old. He pointed out that the condition bore much resemblance to the preceding, but it was a distinct affection. He remembered that Dr. Barlow has suggested the possibility of its being due to erysipelas, and the rise in temperature lent some colour to this hypothesis, although its march was not that generally followed by that disease.

Case of Successful Tendon Grafting.—Mr. MAYO ROBSON gave the history of a case of severe injury to the forearm and hand, involving principally the ulnar border. The dorsum of the hand was entirely divested of muscular and tendonous structures, and the palm was extensively lacerated. Wishing to preserve the arm if possible, he took a piece of hanging tendon from the front of the hand, four inches and a half in length, and stitched it to the extensor muscles, and the remaining fragment of the extensor tendon. The wound was kept aseptic, and no sloughing took place. The man had now good movement, and was able to return to his work as a weaver. The hand could be pronated and supinated, and he could move the thumb and index-finger. He had taken a good length of tendon, and had secured it by a single suture at each end.

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EDINBURGH MEDICO-CHIRURGICAL SOCIETY. **Professor Chiene's Hospital Experience.**—Professor CHIENE read a portion of a paper giving his experience as a hospital surgeon during eleven years. During that period 2,658 cases had been treated in his wards. On 1,600 he had operated; while the remaining 1,580 had not required such interference. He had had 165 deaths. In speaking of the cause of death, Professor Chiene tabulated the results as follows: From blood lesions, seven and a half per cent.; from organismal causes, forty-seven per cent.; from exhaustion, twelve per cent.; from nerve lesions, fourteen per cent.; from shock, nineteen per cent. He gave these statistics in the hope that some improved method, or methods, which would prevent the recurrence of some of such deaths, might be arrived at.

Excision of the Knee Joint for Strumous Diseases.—Mr. A. C. MULLER read a paper in which he made two proposals for the improvement of this operation. To overcome the tendency to redundancy of skin he suggested the removal of an elliptically-shaped portion over the patella and synovial membrane should be removed in one piece. By dissecting the skin to the upper limit of the membrane, and cutting through the films of the rectus and vasti, that could easily be attained. Mr. Muller had performed the modified operation some twenty times with much success.

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HARVEIAN SOCIETY OF LONDON (Thomas Buzzard, M.D., president). **Enlargement of Thyroid.**—Mr. JACKSON showed a mother and five children, all the subjects of enlarged thyroids. In the case of the mother, Mr. Jackson had removed the isthmus, all the left, and about a third of the right lobe, fixing the remainder of this away from the trachea.

Obituary.

THE LATE PROFESSOR BOYES SMITH.

IT is but little more than a year since the Army Medical School at Netley, suffered such a severe loss by the death of its distinguished professor of hygiene, Dr. de Chaumont; and we now have to record the death of the professor of tropical medicine, David Boyes Smith, M.D., F.R.C.P., which took place on the 3rd June, after an illness of two months' duration.

Dr. Boyes Smith was born in Calcutta in 1833, and was educated in Edinburgh, first at the Academy (where he was a contemporary of de Chaumont's), and afterwards at the University, taking the degree of M.D. and the diploma of L.R.C.S. in 1855. He entered the Indian Medical Service in the same year, his commission being dated November 28th, 1855: served throughout the Indian mutiny, including the siege and capture of Delhi and Lucknow, and many other engagements, amounting in all to fourteen general actions, that is, actions in which all three arms of the service, cavalry, infantry, and artillery were engaged on both sides. He received the medal and two clasps, and was honourably mentioned in despatches. Owing to the hardships undergone in this campaign he suffered from an attack of paralysis shortly afterwards, and for the rest of his life had some loss of power in the left leg.

Having joined the civil branch of the Indian Medical Service, he was appointed civil surgeon at Delhi, and subsequently at other large and important centres in the Bengal presidency, attaining great success in the practice of his profession, and winning the highest opinions from those in authority on account of his great administrative ability. For three years he was Sanitary Commissioner for Bengal; the *Annual Reports* he wrote during this period are volumes full of information laboriously collected, and carefully edited and annotated on all points bearing on the health and sanitation of this province.

Dr. Smith was appointed professor of midwifery at the Calcutta Medical College, and was afterwards, for nearly six years, principal and professor of medicine in the College, and first physician to the College Hospital, receiving repeatedly the thanks of the Government for the successful management of these institutions. In 1882 he retired from the service, and engaged in private practice in Calcutta. On the retirement of Dr. Maclean, in 1885, from the chair of medicine at Netley, Dr. Smith was appointed his successor, and in the same year he was elected Fellow of the Royal College of Physicians of London.

Though a man of wide experience, most extended reading, and great teaching ability, he has not left behind him any systematic work on medicine in any of its departments, though we believe he had the intention of preparing for publication his lectures on tropical diseases. His writings on sanitation and on medical topics are mostly in the form of official reports, and include (in addition to the *Annual Reports* previously mentioned) an account of the *Pilgrimage to Juggernauth*; a report on the *Drainage, Conservancy, and Water Supply of Calcutta*; *on Smallpox, Inoculation, and Vaccination*; on the *Pathology and treatment of Cholera*; and many articles on various subjects in the *Indian Medical Gazette*, which journal he edited for a year.

His fatal illness commenced in the early part of April, with a slight paralytic seizure, though the cerebral lesion must have been in progress long before this. He gradually became worse, the symptoms, however, not being of an ordinary character. Dr. Ferrier saw him in consultation with Sir Wm. Aitken and Dr. Trend, of Southampton, and diagnosed cerebral tumour. The paralysis became more general, and he expired peacefully on the 3rd June.

Dr. Smith was a man of varied attainments and cultivated tastes: he had travelled far and wide, in the Arctic Seas, in China and Japan, America, and all over Europe; he spoke well in public, and his memory was stored with anecdote, so that in private he was a most pleasant companion. His genial and kindly presence will be long remembered by many friends, not only in the medical profession, but throughout the service generally, in India as well as at home. He married shortly after his retirement in 1882, and leaves a widow and one child.

WILLIAM STEWART FALLS, M.D., F.R.C.P., F.K.Q.C.P., M.R.C.S.,

IT is with the deepest regret we have to record the death of William Stewart Falls, who was for upwards of thirty years a resident and eventually the senior physician at Bournemouth. Dr. Falls was taken ill last October with a bad attack of melaena, during which he was seen by Sir William Jenner in conjunction with the local doctors; but he rallied from this attack and commenced work again shortly after, and remained working hard right up to the day of his seizure on May 17th. On the evening of which he was suddenly taken ill with melaena and hæmatemesis, and in spite of everything medical skill could do, he eventually sank on Wednesday, May 22nd. Dr. Falls was born at Clifton in 1825; the son of a naval surgeon, who had seen active service in two actions. He received his medical education at St. George's Hospital, where he was the contemporary of many of the most distinguished members of the profession of the present day. He was house surgeon at St. George's in 1849. Dr. Falls commenced practice in Hampstead with a Mr. Evans, where he remained till 1856, when he went to Bournemouth, which had then an insignificant population of 300, which at the time of his death had risen to 30,000. He took the degree of M.D. at St. Andrew's in 1863; L.R.C.P., London, 1875, and M.R.C.S., England, 1847. He was senior physician of the Sanitorium for Consumption and Diseases of the Chest, Bonrnemouth, and consulting physician at the Royal Hospital at St. Mary's Home for Invalid Ladies, Bournemouth. Dr. Falls took an active part in local matters; and in 1867 was elected a member of the Bournemouth Improvement Commissioners. His kind and affable manner, and his recognised ability as a specialist in diseases of the chest, secured him a large and lucrative practice, and a host of friends by whom his death is sincerely regretted. Dr. Falls in his earlier years was an ardent admirer of aquatic sports, and rowed for the St. George's Hospital Club at Henley, when, with his friend Mr. Coulthard, he won the pairs. His name is honourably mentioned in "Badrumtor" as an oarsman. He was twice married, and leaves a wife and seven children, among whom is Dr. William C. Falls, now practising in London.

Medical Miscellanea.

The subject of our next illustration will be T. Jessop, F.R.C.S., Leeds.

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Sir Morell Mackenzie has recently been elected an honorary member of the Medical Society of New York.

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Mr. Michael Carteighe was for the eighth time re-elected President of the Pharmaceutical Society, at the council meeting held on June 5th.

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The Naval Medical Reserve appears to possess attractions, as some hundreds of applications have been received by the Director-General.

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Our articles on "Pauperisation by the Hospitals" has been copied into several journals.

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On May 20th the Workhouse Infirmary Nursing Association held its annual meeting at the Grosvenor Gallery. This Association has done excellent work, and deserves to be widely known.

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Her Majesty has been pleased to confer a baronetcy on Sir George H. Porter, Senior Surgeon to the Meath Hospital, and one of the Surgeons to the Queen in Ireland.

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We regret very much to announce the death of Dr. David Boyes Smith, one of the lecturers of Netley Hospital. At the last meeting of the British Medical Association we little anticipated that we should have so soon to chronicle this sad event.

* * * *

We have received from Messrs. Silverlock, Blackfriars-road, London, an excellent little book, entitled, "Medical and Surgical Reference Book," a regular *vade mecum*. It contains information of the most varied character, and is a book which every practitioner should possess.

* * * *

A boy recently died of hydrophobia near Bradford—at least so it was said at the coroner's inquest. Strange to say, the dog which inflicted the bite also appeared at the enquiry, sound and healthy, from which we draw the conclusion that the boy did *not* die of hydrophobia.

* * * *

We were offered the Vice-Presidency of the General Practitioners' Association, an honor which we declined, because we felt sure at the time that there was an object in starting it. What was become of this association? It was intended at the time to help in the return of the list candidates to the General Council. We presume its *raison d'etre* disappeared with their return.

We shall publish in the next number an account of the exhibits interesting in a medical point of view at the Paris exhibition.

* * * *

There is an excellent posthumous paper by the late Milner Fothergill, "On the Moods of the Sane," in our esteemed contemporary *The Alienist and Neurologist*, April, 1889. Dr. Charles Hughes is to be congratulated upon the admirable manner in which the journal is produced, and the high standard it maintains.

* * * *

The Portuguese Government has forbidden public exhibitions of hypnotism on the ground that they are dangerous to the health of both the "subjects and of the spectators, and that the method might be used for criminal purposes"; this prohibition of course does not apply to the therapeutic application of hypnotism by physicians.

* * * *

CASCARA LOZENGES. — Messrs. Richardson, of Leicester, have prepared a lozenge which is wholly free from any taste of the drug. Each lozenge contains two grains of the extract of cascara. It forms a pleasant form of medicine, and is especially suitable for children. In operation these lozenges are adapted to the requirements of adult age.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, *"The Provincial Medical Journal," Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16*th of the month.*

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

THE STATE OF THE PROFESSION.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—In the numerous articles you have written on the state of the profession you have faithfully depicted its true state, and I regret to find that there is such apathy on the part of those interested. The evils of unlicensed competition, the cutting down of prices or fees, the eagerness with which unpaid appointments are sought for, tell but too surely that the profession is in a bad way. Cannot an association be formed to remedy the evils?— Yours truly,

PHILALETHES.

[☞ There is no use in forming another association. The British Medical Association exists. It is composed of 12,000 members, *most* of whom are general practitioners. It has branches everywhere. If the British Medical Association were to move in this matter, it would soon remedy some of the evils, but it wants putting into action. It is for the members to do this.—EDITOR "P.M.J."]

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—You appear to favour the formation of cheap dispensaries; at least, you do not condemn them in as open language as I think you should use. The cheap shilling dispensaries are the means of bringing down fees, and competition between practitioners is thus rendered keener. Wherever these shilling dispensaries have been established there has been a multiplication of them, to the general injury of other practitioners. Thus Dr. A—— opens one; then Dr. B—— and Co., thinking that they will not be undersold, also open their shilling shops, and so on. I fail to see how you can recognise these institutions, or in any way sanction them. In one of your articles, "a general practitioner" is quoted. His opinion is singular: the shilling fraternity should not be allowed professional support. I do not wish to enter into a personal controversy, so sign myself,—Yours truly,

June 20th, 1889. M.D.

[☞ The writer has not grasped the gist of our articles. The shilling dispensary is but the result of many causes, notably of hospital abuse. We must begin with the free advice given at the hospitals, and with the hospital surgeons. Medical men must live—even by the shilling dispensary. There is no use in beginning reform at the wrong end. It would not be justice to commence with the poorest classes in the profession—the men who are driven by their needs to take up a line of practice which must be felt to be, if not degrading, at least repugnant to professional instincts. We have simply pointed out the causes at work in producing the shilling dipensary.—EDITOR "P.M.J."]

PROPOSED PUBLIC MEDICAL SERVICE OF ENGLAND.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—I would ask you to publish the accompanying proposal for the establishment of a Public Medical Service.

OBJECT.

The providing of medical treatment for those wage earners who are making from 20*s.* to 45*s.* per week for the entire family, on their making small immediate payments of 2*s.* for the first visit and 1*s.* for subsequent visits during the same illness, or 4*s.* per week, paid in advance, for five visits. [Such a scheme would include those in domestic service, shop and factory hands, some clerks, mechanics, and small shopkeepers, these being the classes who generally frequent and overcrowd the out-patient departments of the medical charities. It will not arrange for the providing of medical treatment at the homes of wage earners.]

PROPOSED RULES.

1. That each town or city be divided into as many districts as necessary, a branch being established in each. The rent of the branch to vary from £25 to £45 per annum, and the branch to be situated in the locality in which the patients live.

2. That each branch staff consist of three to six medical practitioners and a dental surgeon. Medical and dental staff to be registered. No unqualified men to be engaged to assist or to act as *locum tenens*. Each practitioner to practise, in so far as he wishes, that branch of his profession which he may select, and to arrange days and hours on which he will treat patients at the branch. Each practitioner to take the fees paid to him by the patient; but in cases of operations, the doctors to arrange beforehand to assist each other, and at a certain division of the fees paid in this case. No practitioner who keeps an open or branch dispensary, or an unqualified assistant, to be eligible to serve on the staff. Practitioners who have resided in the locality for two years to be eligible to serve.

3. The rates and taxes, and other expenses of the branch, to be defrayed by an equal levy on the medical staff, but no expenditure to be incurred without the consent of two-thirds of the staff.

4. That the registered chemists in the vicinity of each branch supply medicine to the patients at the rate of 4*d.* for each prescription, this sum to be paid to the chemist by the patient when the prescription is left to be dispensed. No prescription to be dispensed a second time by the chemist, unless the patient has been advised again by his doctor. Prescriptions to be retained and stamped and dated by the chemist. Standard mixtures, their formulæ to be arranged by the medical staff along with the chemists, to be prescribed, as far as is consistent with the right treatment of the patient. No prescriptions to be copied by the chemist into his books. No drugs to be dispensed by the medical staff, either at the branch or at their homes, to the branch patients. The medical staff not to use any influence with patients, so as to induce them to go to any particular chemist; but each patient to select whom he chooses, or that one who has recommended him to seek advice. Chemists to have the right to refuse to dispense a prescription on more than one occasion, if they believe that the patient so prescribed for is above the 45*s.* "wage limit," and until they discuss the matter with the doctor who has prescribed, and to arrange accordingly. [Such a plan is now carried out by many doctors who have clubs, and by those who act as surgeons to post office officials. It would also save the cost of drugs and dispenser to the service, and by gaining the co-operation of chemists would do away with what is known as "counter prescribing," or "prescribing chemists." The sum paid for drugs at 119 London hospitals in 1885 was £48,974; while at Liverpool, eighteen hospitals spent £6,655.]

5. That the medical staff of each branch possess the right to refuse treatment to any who they know are making over the 45*s.* "wage limit;" and further, that each doctor has the right to remonstrate with his *confrères* when he knows that a patient is receiving treatment who is above the "wage limit." And that each practitioner has the right to tell patients to come to his house in cases where any special examination—as of the eye, ear, or throat, etc.—is required, provided always that the patient is charged the Service fee.

6. That the fee for vaccination with human lymph be 2*s.* 6*d.*, and with calf lymph 3*s.* 6*d.*, including the filling up of certificate. No death certificates to be charged for. Certificates with examination to be 2*s.*, and ordinary sick club certificates 1*s.* No death certificates to be granted unless the patient has been seen within twenty-four hours by the doctor.

7. That registered dental surgeons be asked to co-operate, and that they arrange the days and hours on which they treat patients, and that patients be treated at the dentist's residence. That the scale of immediate payments be: Extractions, one tooth, 2*s.*, and each extra tooth, 6*d.* Extractions under gas, 4*s.*, and each extra tooth, 6*d.* Extractions under ether or chloroform, 12*s.* 6*d.* Stopping with amalgam, 2*s.* per tooth. Stopping with gold, 4*s.* per tooth. Artificial teeth and vulcanite plate, 4*s.* 6*d.*, and every extra tooth, 3*s.* Immediate payments to be made by the patients to the dental surgeon.

8. That the fee for surgical operations performed at the branch—the operations being of the class usually done at the out-patient departments of medical charities—be not less than 10*s.* or more than £1 1*s.* (anæsthetic included), and that this fee do not cover the subsequent visits made for dressings or advice.

9. Patients to have the right to complain to the Branch Committee, and further, to the Central Board. Complaints to be made in writing, and not less than six days after the alleged irregularity.

CONSTITUTION.

A Central Board for each city, or town, to be composed of one medical practitioner, one dental surgeon, and one chemist from each branch—each elected by the Branch Committee—to have supreme control. This Central Board to elect twelve public laymen who take an interest in provident and thrift subjects, these being eligible for re-election each year. The board to hold quarterly and annual meetings. Application to be made by not less than three medical practitioners, not in partnership, to the board when they wish to form a new branch. No one to use the title "Public Medical Service" without the written permission of the Central Board. Each branch to have a committee composed of the medical and dental staff, and a number of chemists equal in number to the medical staff. This committee to meet monthly or quarterly to discuss matters affecting the welfare of the branch, and to elect one doctor, one dentist, and one chemist, to represent the branch on the Central Board. No branches to alter, or add to, any rules passed by the board. Proposed alterations to be sent in six weeks before the annual meeting. No branch to in any way canvass for patients, to distribute handbills, or to have any printed material on the branch other than a small brass plate on the entrance door, with the name of the service and of the branch on it. Each branch to fill up vacancies occurring in the medical and dental staff.

Proposed Form of Patient's Card.—Book to be Cardboard, four inches by three inches. On front page: "Public Medical Service of England;" name of branch and address; name of doctor, and hours; "Always bring this book with you." On back page: List of medical and dental staff, with address and hours of the latter; scale of fees; rules referring to patients. Two inside pages: No.; name and address of patient; names and addresses of chemists; space for prescriptions.

[Each branch may have a man and wife to reside there, the latter to act as matron; these to occupy rent free. It will be easy to obtain the services of a retired midwifery nurse, or a pensioner and his wife.]

HOSPITAL CO-OPERATION WITH THE PUBLIC MEDICAL SERVICE.

It is absolutely necessary for the success of this Service that the authorities of the medical charities co-operate. No connection whatever shall exist between the two in so far as referring patients to the charities for treatment, or using them for teaching purposes is concerned, for the patients of the Service are in no way eligible for charitable relief; and further, no honorary subscriptions or public collections shall be taken up to aid the Service, it being understood that it is entirely self-supporting.

Hospital co-operation must exist, as in no case yet reported has a Pay or Provident Service been known to succeed when it has had to compete against a free hospital at which all classes are treated. The different plans of hospital co-operation have been noticed by me in the *Journal*. The main features of it are:—

That hospital committees meet and fix a "poverty scale," and so decide who are eligible for charitable medical aid. My suggestion is that out-patient treatment be refused when man and wife make over 25s. per week; single man or woman, 20s.; each child of family, 1s. 6d. That no one be refused first treatment, but that second attendances be refused unless the patient has his "card" stamped by an official appointed to inquire into his social circumstances. Each patient to state on a printed form: name; age; address; occupation; name of employer; amount of weekly wage; married or single; number of family; in or out of employment; receipt of outdoor relief.

The social circumstances of the patients may be inquired into by one of two well-known ways: first, by having a waiting-hall inspector, paid and appointed by the hospital, as is done at St. Bartholomew's and the London Hospital; secondly, by using the Manchester system, where each hospital sends a list of patients with their addresses to the Charity Organisation Society, whose inspectors inquire into the social conditions of applicants, and who refuse to stamp the hospital card of the patients if they are making over their "poverty scale," the hospital authorities also refusing further treatment.

It has lately been shown [1] that the abuse rate at the out-patient departments of hospitals—taking the above "poverty scale" as a basis—is about 50 per cent. of the whole. Allowing 5 per cent. of these abuse cases to be above the 45s. wage limit and so able to pay the usual medical fees, 95 per cent. would be eligible for the Public Medical Service. I have lately pointed out [2] that, during 1885, 130 London hospitals treated 1,179,661 out-patients; that eighteen Liverpool hospitals treated 244,831 out-patients; and that twelves Glasgow charities, according to the statement that Dr. J. Erskine,[3] treated 72,217 out-patients treated in only three cities. If 50 per cent. of this total (748,358) were refused treatment at the charities, this would give 710,936 persons for the Public Medical Service, after deducting the above 5 per cent. (37,417) who would be rendered ineligible owing to the 45s. wage limit. Supposing the number refused in thirty other large towns could be added on, can it not readily be seen what a fine service may be created if only there is some combination and organization? Let us see if it be true that the medical profession is incapable of organising.

ABOVE SERVICE NOT COMPLETE AS FAR AS SUPPLYING THE ENTIRE MEDICAL WANTS OF THE WAGE-EARNING CLASSES.

This proposed Public Medical Service does not make any arrangements for providing medical treatment for patients at their homes. It is based on the knowledge that the out-patient departments of our hospitals are overcrowded, and by a class who can have no difficulty in paying small immediate fees, and also on the fact that they are unable to pay the usual medical fees of 3s. 6d. to 5s., and 1s. 8d. for a bottle of medicine. The first statement is shown to be true by the figures given by me in the *Journal* for February 2nd, 1889, where it is stated that the sum paid by patients at seventy-two charities was £36,334. By having a system of small immediate payments, the great expenses of book-keeping, making out of accounts, postage, payment of collector, bad debts, and county court will be prevented, and with the result that wage-earners, by thus reducing the expenses of management, will be able to obtain skilled medical treatment for a smaller fee than they could otherwise.

The Public Medical Service, with hospital co-operation, will therefore provide treatment for those who are sufficiently strong in body to go to the branch. If, however, a scheme is to be as perfect as possible, provision should be made for those who are too ill to leave their homes. This can be done by establishing publicly managed and well-conducted provident societies. Unfortunately, the "provident dispensary" system has never had a fair trial, owing to the wild competition for patients between it and the free hospitals. Moreover, the expenses of a provident dispensary are so great that the small payments made by the members during health and sickness are altogether unable to cover them. Rent and taxes, coal and gas, drugs, printing and stationery, furniture, wages of dispenser and collector, swallow up all the members' payments, and with the result that this provident scheme turns ont to be, in so far as the medical staff is concerned, a charity. Dr. Stewart, of Manchester, in the *Glasgow Medical Journal*, 1884, has given his experience of two years' work in the provident dispensary there, and finds that for 12,096 night and day visits he was paid at the rate of 4.716d. per visit. The skilled mechanic claims over 10d. per hour, and extra pay for work over time! In the *Journal* for January 18th, 1887, I have collected statistics of eighty-eight provident dispensaries, having a membership of 293,720. But these, I find, pay their doctors on an average 4½d. per visit. This "rate of remuneration" is absurd, and, rightly, medical men refuse to sanction such, saying, that if they give their services, they would prefer to present them as a charity, rather

[1] *Journal*, May 25th, 1889. [2] *Ibid*, February 2nd, 1888.
[3] *Glasgow Medical Journal*, 1889.

than allow well-to-do wage-earners to pretend they were paying for what they received. There is really no further necessity for medical men to start another plan of charitable medical relief. The limit of unpaid medical services has, as Dr. Fairlie Clarke said in 1875, been reached, and it is the duty of medical practitioners to avoid being taunted with the statement that, next to the poor-law, their profession is the greatest pauperising agency in the country.

What a pity it is that each young medical practitioner, who "seeing how destitute his neighbourhood is of the means of providing the poor with skilled medical aid, has resolved, with the aid of some Christian friends, to establish a hospital," and so on, had not turned his mind to provident and thrift subjects. May we benefit by the mistakes of the past! Dr. Stewart asks—and we should answer—the very pertinent question, "Is there any virtue in giving an article to a man for less than its real or market value when he is able to pay the full value for it?" In order, therefore, that a provident scheme may be worthy of the name, it must have honorary subscribers—that is, unless the medical staff agree to work for well-to-do people for nothing. Perhaps the plan followed in Germany, where there is compulsory insurance against sickness, accident, and old age, is the best. There the employer is made to pay a sum equal to half the amount paid by the *employé*. There must also be a sliding scale of payments for infants, children, adults, old people, and chronic invalids; while the rule giving a member the right to demand "immediate treatment" by the payment of 5s. or 10s. must be obliterated, it being entirely foreign and most injurious to any insurance scheme. Again, the rule which states that not more than four children of a family are to be charged for, the remainder being treated free—that is, as charity cases—is absurd, as it gives about 13 per cent. of the whole number the right to receive without paying. It is a pity that the provident system had not been started on a fair working basis; but it is to be remembered that it has had to compete against the fearful odds offered by the free hospitals. In principle it is perfect, and no doubt, if the Public Medical Service cannot secure hospital co-operation, it will have to fight against those hospitals which charge from 1d. to 2d. per visit, and will accordingly have to charge similar fees.

I claim, if the above schemes were carried out:

1. That a great strain would be taken off the funds of our medical charities if they ceased to provide medical aid for those who are well able to pay for it. The genuine sick poor would then receive proper attention, instead of, as now, being driven back on the poor-law. The present gross abuses of our hospitals are slowly stifling charitable feelings, and if these go on the public will take as little interest in them as they now do in the parish infirmaries. There is little use in saying that wage-earners as a body are unable to pay the small fees of a public medical service, for even in the East End of London, Mr. C. Booth has lately shown that out of its population of 908,958, 577,000, or 65 per cent., "are classes in comfort and rising to affluence."

2. That the tone and manly feelings of wage-earners would be increased, and that they will be encouraged in the way of self-help and self-respect. These feelings are being gradually undermined owing to poor-law, medical charities, and other forms of relief, while the degradation of character due to this feeling of dependence on the charity of others is working enormous evil. No doubt many wage-earners hold that it is the duty of their employers to provide them with medical treatment and medicine; hence, not looking on this provision of aid as a charity, but as a right, no feelings of gratitude are created. When free treatment is given to all at the hospitals, then the greatest excessive to frugality, sobriety, and independence are withdrawn. I think it is no exaggeration to say that on the happiness, welfare, and contentment of the wage-earning classes of England depend, to a great extent, the prosperity of this country. There is, or should be, in every one of us a feeling which perhaps may be described as the "necessity of providing," and the person who either actively or passively hinders the progress of this incentive, either for the purpose of bringing himself into prominence or notoriety, or for the purpose of keeping down the working classes, is an enemy. Christian almsgiving is a religious duty, but only when the recipient is worthy of relief. When given to others it works evil, for it is found in all instances that pauperism, or a dependence on the frugality and work of others, increases in direct proportion to the funds provided for the indolent. The statistics of our medical charities show, like those of the poor-law, that this dependence of the wager-earner on the charity of others is largely a preventable disease. Perhaps when some *soi-disant* philanthropist succeeds in demoralising and debasing the wage-earners, by doling out just as much charity as brings the givers into notoriety, to a low level of servility and dependence, the public will put a stop to what might be termed "trading in hospitals." The demand for charitable aid by the well-to-do is mainly due to the encouragement it receives—it grows by what it feeds on. This is an unpleasant fact, but it had better be grasped at once. A short time ago a guardian asked a man who was making 52s. a week, but who was spending all he had, "What will you do when old age comes?" "I'll do as my father did—go to the workhouse." "I'll go to the hospital" seems to be the outcome of the present-day teaching.

3. The happy and old-fashioned doctrine of "live and let live" among the public, medical practitioners, and chemists would be encouraged. It is useless for the wage-earner to say that because he gives his penny for his bottle of medicine, or drops it into the hospital Saturday box, he is paying for what he gets, while all the time he does not pay the doctor who treats him at the hospital. He is, therefore, a pure charity case in so far as the doctor is concerned. This point cannot be too prominently dwelt upon, more especially as the wage-earner now often says, "I pay for what I receive." It is well that the demands now made upon the services of doctors are far too great, and that the average payment for services is too small. If a public medical service had anything to do with true medical charity, one would not speak on this subjects of payments. Further, it may be said, perhaps, that this service is for the benefit of doctors. Well, if it be so, why deny it? Do merchants and other business men not combine together to offer their services for a certain sum, only with this very great difference, that members of the medical profession try to make their charges harmonise with the social conditions of the patients?

No doubt the above proposals will meet with some opposition, but this will just be the amount of resistance required to call forth a little extra exertion on the part of its sympathisers. A final acceptance must take place, else the springs of charity will be dried up. I would appeal to those of the clergy who advocate the virtue of giving to impress on their hearers that it is no charity to provide the well-to-do with that which they can easily obtain by their own efforts and at their own expense, but to tell them that it is not right of them to steal the funds provided for the aid of the poor.

A large and ever-growing number of medical men are determined that the time has come when an effort must be made. Sir Spencer Wells, Sir Charles Trevelyan, Messrs. T. Holmes, Fairlie Clarke, Ernest Hart, and Ogle, the Charity Organisation Society, and many others, have given their best time and attention to constructing a plan by which skilled treatment may be provided for the wage-earning classes. It is to be hoped that the young generation may prove themselves capable of carrying out many of their suggestions, and show that they are able and willing to take their place in discussing and carrying out a plan which, if thoroughly worked, must reflect credit on the profession, and at the same time—by relieving our medical charities of the treating of a class of the community far above the scope of charity—to make room for the promised poor, while they help to raise the wage-earner into a more independent position. Besides, the daily Press has now come to our aid, and has plainly said that a Royal Commission is urgently needed to inquire into the present disorganised condition of the hospitals. A number of practitioners acting on hospital staffs will oppose all efforts to restrict the giving of charity to all, as they hope that, the pay-system being introduced, they will receive wages for work done by them. But in Birmingham, at the General Hospital, where four assistant doctors are paid £400 among them, £5,000 are made out of the patients they treat at the charity by selling tickets at 3s. 6d. each, these giving six weeks' treatment to each well-to-do pauper. Thus the very low fees made in practice are vastly higher than those paid to the hospital staff.

Again, may I be permitted to say that is not a charity proposal, and, therefore, business-like remarks are alone called for. Another class will oppose this scheme. Some time ago a merchant said to me: "You see, our workers are paid from 30s. to 37s. per week. It is most essential that they work regularly, and, therefore, it is in my interest that the men are healthy; and, further, that when ill they receive medical aid. These men say it is my duty to provide doctors for them. I do this in the cheapest way, namely, by giving half a sovereign to Hospital Sunday Fund, or by sending a donation to a hospital. If the doctors choose to treat these men, who are well able to pay, as charity cases, that is not my business, but theirs. I deal in the cheapest market." This is an honest statement, and represents the feelings of more than half who subscribe.

If the medical profession do not wake up, and show the public that they are quite capable of forming and developing a scheme by which the working classes may obtain "fair treatment for a fair fee," then one of two things are likely to happen. Either the co-operative societies will step in—as has been done in Canada, Shanghai—or pass a law compelling medical men to give their services for a fixed fee.—Yours truly,

Liverpool, June 22nd, 1889. ROBERT RENTOUL.

THE ELECTION AT THE ROYAL COLLEGE OF SURGEONS.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—In offering myself as a candidate for a seat in the Council of the Royal College of Surgeons of England, I do so as an independent fellow, aware that there is a strong feeling in the profession that the provincial members of Council are too few; and not one of those few lives in this part of the country.

I consider that both Fellows and Members need to have a bond of interest in, and of union with, the college, beyond the fact of their possessing diplomas, and that this would be obtained if the Council were to submit their Annual Report to a general meeting for consideration before adoption, and if they also convened a meeting of Fellows and Members to consider any heavy expenditure or other matter of great importance. The College of Physicians and the College of Surgeons are working together, and I think it would be well if, as is the custom at the former, the president were elected by the annual meeting of Fellows at the latter. The question of admission of Members on the Council I have read, conversed, and thought much about, and conscientiously feel that had I remained a Member I should not have felt any claim to the position. I believe that many Members do not desire it, and am satisfied that any who aspire to the Fellowship, now that admission to it is practically reduced to passing a good examination, and paying a moderate fee, can well, even if in heavy practice, prepare and pass by energy. This I say from experience, as I, when in hard work, passed both examinations in one week.

The Fellows were created to be the Electors and Council of the college. Those first elected without examination were prominent surgeons to large hospitals, having been raised to that position by their professional brethren and fellow citizens. The rest have the guarantee of possessing the highest surgical qualification in the world. All Fellows are Members, therefore have the welfare of the Members at heart, and it is well that all advantages of Fellowship should be upheld, as an inducement to many who are now Members, and we regret do not join us, to take the higher qualification. Also, I am opposed to both draft bills for Parliament. The first seeks to throw the Council, with the offices of president and vice-president, free to Fellows and Members as one body. The second by its wording "not less than six shall be Members" practically does the same.

If I am honoured by being elected to a seat on the Council, as representing my brethren in the provinces, and having their and all other Fellow's interest at heart, I shall feel it alike a pleasure and a duty to attend the meetings regularly.—I am, Sir, faithfully yours,

Clifton. CHARLES STEELE,

Late Surgeon and Consulting Surgeon to the Bristol Hospital for Sick Children; late Senior Surgeon to the Bristol Royal Infirmary; late Lecturer at the Bristol Medical School.

Bibliographical Record.

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☞ We direct particular attention to the above work. Pressure on our space prevents us from publishing review until next month.

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☞ This is an *edition de luxe*.

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EXCHANGES, 1889.

AMERICAN:—

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2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

BRITISH:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25 Public Opinion.
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28. The Australasian Journal of Pharmacy.
29. The Hospital.
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31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

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35. Nederlansch Tijdschrift voor Geneeskunde.

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55. Revue Medico-Pharmaceutique Constantinople.

Very faithfully Yours

J. C. Hood

THE

Provincial Medical Journal:

A MONTHLY REVIEW OF MEDICAL SCIENCE, LITERATURE, AND BIOGRAPHY.

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Our Portrait Gallery.

T. R. JESSOP, F.R.C.S.

THE history of the Leeds School of Medicine has yet to be written; its name has been identified for nearly a generation with the progress of surgery, and its best traditions have fortunately been preserved, so that as a school of medicine it now stands in an unrivalled position. The public spirit of the inhabitants of Leeds has always stood to the profession, hence the Leeds medical charities have been well supported. The School of Medicine has been for some years connected with the Yorkshire College, and now it is one of the affiliated Colleges of the Victoria University; the student, therefore, who enters as a pupil at Leeds can proceed to the degree of M.D. Victoria University—the difficulty so far as the M.D. qualification is thus removed. The surgical fame of the Leeds Infirmary has been well sustained, and those who know Mr. Jessop and his surgical work will willingly admit that he is worthy of a place with Hey, Teale, and the other surgical worthies who have made the school famous.

Mr. Jessop was born at Brighouse in 1837; he was educated at the well-known school at Giggleswick, which was then under the direction of Dr. Butterton, assisted by Mr. Howson, father of the well-known Dean of that name. Like many other eminent surgeons, our subject commenced his professional education in the old-fashioned way—viz., by a five years' apprenticeship, half of which he spent with Mr. Robert Farrar, of Brighouse (now of Scarborough); half with the late Mr. T. Nunneley, of Leeds. After this sound training he entered in 1856 as a student at the Leeds School of Medicine. At that time the lecturers in the school were Dr. Chadwick, Messrs. T. P. Teale, William Hey, Samuel Smith, Samuel Hey, all of whom are now dead, After qualifying as a Fellow of the Royal College of Surgeons, England, in 1860, he was elected Resident Medical Officer to the Leeds Infirmary, a position which he held for five years, and which he resigned in 1865 to commence practice in Leeds. He was at once admitted to the School of Medicine as Demonstrator of Anatomy. A year later he was chosen Lecturer on Physiology, and Surgeon to the Leeds Public Dispensary. On the decease of his former master, T. Nunneley, in 1870, he was elected Surgeon to the Leeds General Infirmary; and owing to the retirement of Messrs. Wheelhouse and Teale a few years ago, he is now the Senior Surgeon. On his election as Surgeon to the Leeds Infirmary he resigned his appointment to the Leeds Public Dispensary, and was transferred to the Chair of Surgery. On the amalgamation of the Yorkshire College with the Victoria University, he became the first Professor of Surgery; but owing to increasing professional calls, he was obliged to resign this appointment. It is not to be wondered at that with such a training Mr. Jessop should have at once started with an extensive general and consulting surgical practice. A five years' apprenticeship, four years as a student, five years as a resident medical officer, represent fourteen years of student life.

This fact in the life history of Mr. Jessop may be usefully taken into account by some of our younger aspirants for professional position. During the early portion of his career Mr. Jessop was Surgeon to the Great Northern Railway Company. This appointment brought him very prominently forward as a witness in railway compensation cases, work in which he still frequently engages. One of the judges at the assizes complimented the profession at Leeds on the evidence given by the Leeds surgeons as being eminently fair, and as not exhibiting that partisan character which but too frequently marked expert testimony in other towns. Mr. Jessop has not been a voluminous writer, though he has published a number of valuable papers, chiefly on surgical subjects.

Mr. Jessop has been President of the Yorkshire Branch of the British Medical Association, and now represents the branch on the Council. He was deservedly chosen President of the Surgical Section, August meeting, 1889, at Leeds.

Original Communications.

THE ANALOGY OF CHOLERA AND SUMMER DIARRHŒA.

By Sir William Moore, K.C.I.E., Q.H.P.,
late surgeon-general with the government of bombay.

Diarrhœa, according to standard authors, may be accompanied by all the symptoms of cholera, except rice-water stools and suppression of urine. But cholera often commences as diarrhœa, and subsequently developes into cholera. It is often impossible to define whether the attack should be called cholera or diarrhœa. Summer diarrhœa is induced, if not by heat, at least during the season of the greatest heat. In hot summers there is a good deal of diarrhœa, in cold summers little. Summer diarrhœa is therefore most common in cities, for cities are warmest. In America some practitioners regard heat-stroke and summer diarrhœa as one and the same, just as in years past cholera in India was regarded by some as a form of insolation, or more recently as a form of thermic fever not developed into insolation. Dr. Ballard having recently investigated the cause of summer diarrhœa, finds that it does not begin until an earth thermometer, at least four feet deep in the ground, shows 56°, and that diarrhœa prevails so long as the earth temperature is at this point, irrespective of what the external temperature may be. It is also stated that the lighter the soil the more the diarrhœa. Further, Dr. Ballard has expressed a provisional opinion that the essential cause of summer diarrhœa resides ordinarily in the upper layers of the earth, where it is intimately associated with the life process of some micro-organism. In this connection Pettenkofer's cholera theory will be recollected. Pettenkofer's conditions are a certain amount of moisture in the ground, indicated by the sinking of the ground water, a porous ground, and a certain amount of organic matter in the ground for the nutrition of the germ. Summer diarrhœa is sometimes characterised, like cholera, by cramps, and the affection in children assumes the likeness of cholera to such an extent as to be called *cholera infantum*. Moreover, when cholera prevails, diarrhœa prevails, a legitimate inference being that both conditions must be due to similar agencies. And, as mentioned before, diarrhœa often becomes cholera, raising the unanswerable question, "At what precise stage do the sufferers from diarrhœa become cholera stricken?" To regard the case as cholera, only when certain symptoms supervene, is not consistent with the fact of so many cases commencing as diarrhœa and terminating as cholera. And it is not in accord with what is admitted with regard to various other maladies—diphtheria for example—of which there are very mild and very severe instances. Greater or lesser severity of diseases, is not sufficient for regarding them as essentially different in their nature. But it has become the custom to esteem cholera as a disease marked by certain signs only, and when it spreads epidemically; and to say a malady is not cholera when all these symptoms are not present, and when it does not spread. The variability of type and of symptoms in other diseases is fully recognised, and the same breadth of view should be accorded to cholera.

In the mortality reports, the term simple cholera generally begins to present in the summer. Now the diagnosis of a typical case of cholera from a typical case of diarrhœa is sufficiently easy. But the diagnosis of this so-called simple cholera or summer cholera is not always easy. If we refer to standard authors on the subject, we find after a detail of the symptoms of cholera, under summer diarrhœa, in "Quain's Dictionary," "But the fluids from the stomach and bowels are rarely free from bile, and are not so like rice water as in true cholera." On this it may be remarked that the symptoms of true cholera vary as much as the symptoms of any disease. Cholera has been described under at least thirty different terms, called into use by the varying nature of the malady, for two cholera epidemics rarely present exactly similar phases. And cholera has been characterised by so many peculiar and anomalous symptoms as almost to justify the thirty different terms. Ziemssen says, "It is impossible to distinguish the one from the other (cholera from diarrhœa), unless regard be had to the absence or prevalence of cholera." Flint, the American author, writes, "It is by no means easy to distinguish the first case of *cholera nostras*." In "Reynolds' Medicine" it is stated, "In some of the worst forms of the English disease the complaint would be at once recognised as real cholera, if it occurred during an epidemic." Roberts says, "The symptoms resemble those of true cholera, but ordinarily they are less severe."

The pathology of diarrhœa, as investigated by Dr. Klein, closely assimilates to that of cholera. . . The intestines are found empty, or containing only fluid, with follicular ulceration, congested spots, denudation of epithelium, and degenerative kidney changes. Again, not only the symptoms, but also the *sequelæ*, of summer diarrhœa resemble those of cholera, especially with reference to a low febrile condition which may result after both maladies.

Many have been accustomed to regard cholera as a disease unknown in the East before 1817, and unknown in Europe before 1832. There is, however, incontrovertible evidence that cholera existed in Eastern countries long before 1817, for the Portuguese met with it when they first went to India centuries previously. And as regards it having existed in Europe, the fact has been elaborately shown by Macpherson in his "Annals of Cholera." It is true that some of the writings on which reliance is placed, both in Europe and in the East, to prove the antiquity of the disease, do not always describe the malady as marked by suppression of urine, rice-water stools, and collapse. But this is only in accordance with the numerous variations of the disease as noted above.

Now, a consideration of the above, and of other points for which there is not space, connected with the two maladies, leads to the conclusion that summer diarrhœa is in reality a phase of cholera. Thus, while the latter prevails most in the hot season of warm climates, the former is most prevalent in the hot summers of temperate climates. Both have been recently attributed to micro-organisms, having their *habitat* in the earth. Many cases commence as diarrhœa, and terminate as cholera. The diagnosis is sometimes so uncertain that we are told by competent authority that it must depend on the presence or absence of cholera. Cholera is a disease which assumes many phases, one of the most usual being diarrhœa. The pathology of the two conditions is very similar, the *sequelæ* are identical. Lastly, it can be shown that cholera is not a new disease in Europe, but has always prevailed. There is no necessity for persons to be scared if it is asserted that summer diarrhœa is in reality a phase of cholera, differing only from the Asiatic type in degree; for we ought to be prepared to meet cholera in its more insidious forms, one of which is diarrhœa. And the best treatment for cholera is the best treatment for summer diarrhœa, both medical and sanitary.

ON THE COMPARATIVE ANTISEPTIC VALUES OF CHLORIDES, NITRATES, SULPHATES, AND OTHER CHEMICAL SUBSTANCES.

By C. T. Kingzett, F.I.C., F.C.S.

In the winter of 1887 I wrote a paper on the comparative antiseptic values of chlorides, nitrates, and sulphates, and since then, and contributory to the main investigation which is still in progress, occasion arose to repeat many of the earlier observations, and to test other substances. In the earlier stage of the investigation, the comparative antiseptic value of the several substances were determined in respect of two standard mixtures—viz., extract of beef and flour paste. As, however, the results were mutually confirmative, there was no occasion to employ in the later observations more than one standard, for which extract of beef was chosen. In reviewing the results to which reference was made, several medical papers commented upon the fact that putrefactive agencies were alone examined, and in one case this was coupled with an expression of regret that specific micro-organisms isolated from all others, and known or assumed to be the direct or indirect cause of specific diseases, were not studied. In reference to this, I may state that such experiments were not required for the purpose I had in view. Moreover, not only is it very difficult to obtain such specimens, but, as a matter of fact, the prohibitive effects of various chemical agents are more or less general in character in the sense that, as they act in relation to any one micro-organism so they do to others, for instance, by destroying them or so altering the composition of the medium that it becomes either incapable of sustaining the life or development of the respective species.

It is now generally taken for granted that micro-organisms do not of themselves give rise to disease, but that under favourable circumstances, that is to say, by development in suitable media, they lead to the formation of certain chemical products which are noxious in character and behave as poisons to the human organism. This is the view I have consistently taken since I have interested myself in such subjects, and I am glad to know that, while when first propagated it was held up to a good deal of scorn, it is now universally accepted.

If, then, this view be correct, it is not improbable that the same or allied poisons may be elaborated or produced through several distinct agencies, that is by different micro-organisms or from varying media; and if it can be shown that antiseptics act uniformly as a class in prohibiting the processes of chemical change or fermentation by which such poisonous products arise, the experiments which I have already described, in common with those about to be referred to, are truly comparative in character, and the results are reliable for guidance in dealing with sanitary matters and the prevention of disease.

That antiseptic agents act more or less uniformly, and are to that extent comparable, is borne out by the fact that the processes for the inhibition of which they are applied are also uniform. Writing broadly, it is fair to state that most processes of fermentation or chemical change, induced by micro-organic life, depend upon two chemical acts, the one hydration and the other oxidation; that is to say, more or less complex molecules like albumen are split up into a certain number of simpler bodies, and oxidation of these, or of some of them, proceeds simultaneously or subsequently. It is not improbable that the more active poisons are produced when the chemical changes are mainly hydrolitic in character. For instance, tyrotoxicon (a substance which Victor C. Vaughan claims to have identified chemically as diazobenzol) is said to be produced by inoculating ordinary milk with the butyric ferment and keeping the mixture in a closely-stoppered vessel for some eight days.

As further bearing on these views it may be noted that in the course of some observations made by Dr. Burdon Sanderson, F.R.S., upon the results of an experimental investigation carried on by Dr. Klein and Mr. Lingard, he characterised them as affording "solid ground for the anticipation that whatever means may be found effectual as prophylactics against septic infection, will also be effectual *in so far as they are applicable*, against tuberculosis."

In commenting upon the same researches, Dr. George Buchanan carried the argument farther, and found "one noteworthy point vouched for by Dr. Klein"—viz., "that when it is possible to recognise, as in the case of anthrax, tubercle, and swine-fever, the minute organisms that play an essential part in the disease, and to compare them with other and similar organisms which are not so much infective as putrefactive, it is found that chemical agencies which are wanting in destructive effect upon the putrefactive organism, have a power, often when present in extremely minute quantity, of arresting or destroying the life of the infective organism."

In order to bring the later results of my observations into general accordance with the former ones, I deemed it advisable to repeat the whole of the tests originally made with chlorides, nitrates, and sulphates in respect of extract of beef. For this purpose, 5lbs. of lean fresh beef was minced and then digested with water at a temperature under 40°C. for three hours, after which the extract was made up to 4 litres, and when cold was strained several times through fine muslin, to remove undissolved portions and solidified fat. In each observation 95 cc. of this extract was taken, and to it was added 5 cc. of the particular antiseptic solution to be tested. These antiseptic solutions, except where otherwise noted, were of 5 per cent. strength; but in cases where the substances were not perfectly soluble, the solutions containing the undissolved particles in suspension were used. The series of experiments first to be described were commenced on November 19th, 1887, and the following table will show the respective days on which the several mixtures became putrid.

SUMMARY OF RESULTS. SERIES D.

Chlorides.

On the fourth day, the mixtures containing the following chlorides had become putrid: Chlorides of potassium, sodium, ammonium, barium, strontium, calcium, and magnesium, as also the standard extract. On the ninth day, the chlorides of iron, lead, zinc, and tin. On the fifteenth day, chloride of aluminium. The mixtures containing the chlorides of copper and mercury remained intact.

Nitrates.

On the fourth day, the nitrates of potassium, sodium, ammonium, barium, strontium, calcium, magnesium, and iron. On the sixth day, nitrate of zinc. On the ninth day, nitrate of lead. The mixtures containing the nitrates of copper and mercury alone remain intact.

Sulphates.

On the fourth day, the sulphates of potassium, sodium, ammonium, iron, and manganese. On the fifth day, sulphate

of zinc. On the eleventh day, sulphate of aluminium. The mixtures containing the sulphates of copper and mercury alone remained intact during the whole period of observation—viz., sixteen days.

It may be noted that, as a rule, as the mixtures became putrid, the colour changed from a dull, dirty red, to bright scarlet, a change probably associated with the initiation of oxidation by the agency of aerobic micro-organisms.

The next set of observations were made in February of 1888, using a similar beef extract (containing 1.796 grms. per cent. of total solid constituents dry at 100°C.) with some selected chlorides, nitrates, and sulphates, and the following other substances:—5 cc. of a saturated solution of "Salufer" (Thomson's fluo-silicate of sodium). 5 cc., 10 cc., 15 cc., and 20 cc. of ordinary "Sanitas" fluid of commerce. 5 cc. Kingzett's Mercuric "Bactericide" (that is a solution containing 5 per cent. mercuric chloride in 5 volume peroxide of hydrogen).

The mixtures broke down in the following order:—On the third day, the standard solution was putrid. On the fifth day, the sulphate of zinc and nitrate of lead mixtures. On the sixth day, the 5 per cent. "Sanitas" mixture. On the seventh day, the chlorides of lead and tin mixtures. On the eighth day, the "Salufer" and sulphate of aluminium mixtures, but mould had appeared on the "Salufer" mixture on the fifth day. On the twelfth day, nitrate of mercury and chlorides of iron and aluminium mixtures. On the fifteenth day, chloride of zinc mixture.

In this series it will be observed that nitrate of mercury broke down on the twelfth day, thus confirming the general evidence adduced by the earlier series of experiments, that this salt is not so reliable as either the chloride or the sulphate. The mixtures containing 10 cc. "Sanitas" and upwards remained quite free from putrefactive change collaterally with the mixtures containing "Bactericide" and the chlorides and sulphates of copper and mercury during the whole period of observation—viz., thirty-four days. These results give this information concerning the antiseptic value of "Sanitas" fluid: that 10 cc. of this reagent is equal in effect with 5 cc. of a five per cent. solution of mercuric chloride.

The remaining series of observations were made with solutions of peroxides of hydrogen of so-called five-volume strength, having dissolved therein five per cent. of the following respectively:—Potassium hydrate (caustic potash), potassium chlorate, bisulphate of potash, borax, borax neutralised with boric acid, sodium benzoate, ethylic ether, glacial acetic acid, quinine disulphate, quinine sulphate dissolved in a slight excess of sulphuric acid, chloroform, phenol (absolute carbolic acid), chloral, pure hydrochloric acid, oxalic acid, boric acid, and sulpho-phenic acid.

On the second and third days the standard extracts broke down in all cases; so also did the sodium benzoate and neutral borax mixtures. On the third day the ether and caustic potash mixtures. On the forth day the quinine disulphate mixture. On the fifth day the potassic chlorate mixture. On the seventh the chloroform mixture. On the tenth day the borax mixture. On the thirteenth day the boric mixture and the mixture containing quinine sulphate dissolved in an excess of sulphuric acid. On the seventeenth day the mixture containing bisulphate of potassium. On the ninteenth day the acetic acid mixture. On the twenty-fourth day the chloral and oxalic acid mixtures. On the twenty-seventh day the sulpho-phenic acid mixture. After thirty-nine days the following mixtures were still good—hydrochloric acid and phenol.

In dealing with these results it must be borne in mind that all the test solutions contained peroxide of hydrogen, which exhibits a considerable antiseptic property, so that the comparative results of the experiments present the specific additional values, so to speak, of the dissolved substance. Of course, the tests, in common with the previous series, were somewhat severe, *as they only give the antiseptic values of 5 cc. of per cent. solutions when diluted twenty times.*

One of the most interesting facts elicited by this inquiry is the pronounced antiseptic value of chloral, which may henceforth find, therefore, an extended use in the domain of medical practice. Only somewhat less pronounced is the antiseptic character of potassium bisulphate. Again, sulphate of quinine, if administered together with sulphuric acid, may be expected, not only to act as a tonic, but also to produce an antiseptic state of the human body. It is interesting also to observe that borax is much more effective than when neutralised with boric acid, notwithstanding that that substance has a higher antiseptic value than borax. Of the other pronounced antiseptics, phenol is, of course, well known, but its application is limited on account of its dangerous character. The influence of the acid reaction is significant, acetic, oxalic, sulpho-phenic, and hydrochloric acids exhibiting very marked antiseptic action.

Acetic acid has been known for ages to be a good antiseptic, whilst hydrochloric and other mineral acids formed the subject of study by Dr. John Dougall, and were found to be powerful antiseptics and disinfectants. Unfortunately they are much too corrosive to be of extended use, either in the household or for medical applications.

Sulpho-phenic acid in common with phenylacetic and phenylpropionic acids, is strongly antiseptic in character, but in the human organism it would probably yield phenol and thus exhibit toxic effects. As regards sulphuric acid (the influence of which is perhaps seen in the results of the observations made with quinine sulphate dissolved in it, and with bisulphate of potassium) it may be remarked that Mr. J. P. Laws has made some interesting observations concerning the restraining and killing power of that substance, both of which he found to be considerable. The antiseptic properties of chloroform water have been studied by E. Salkowski, but in the form of an alcoholic solution (as used in my experiments) they do not appear at any rate to be so pronounced as those of borax.

Respecting "Salufer," an aqueous saturated solution of it, is seen to rank about equally with 5 per cent. solutions of sulphate of aluminium and the chlorides of lead and tin, but this shows the statement made by Dr. Conrad Berens, of Philadelphia, to the effect that it is more efficient than corrosive sublimate in preventing decompositions, to be very exaggerated.

As a matter of fact, experience so far seems to point to corrosive sublimate as to the most powerful antiseptic yet discovered. Klein takes this view, while Koch claims that a solution of 1 in 5,000 can be relied upon for perfect disinfection, since it suffices, according to him, to annihilate all life in micro-organisms and their germs within a few minutes. Klein, I think, rightly regards this statement as an exaggeration of its powers, but there is no doubt of the effects of somewhat stronger solutions. Unfortunately, the terribly poisonous nature of the substance disqualifies it for use except by medical men. Useful as corrosive sublimate

is in the practice of medicine and surgery, it is, however, deficient in one respect, that is power of oxidation. It is capable of killing germs and spores, but has no power of oxidation over the toxic products which may exist in association with them, and this is the more important because these products give rise to the toxic effects which are witnessed in many diseases; in fact, they constitute the real infectants. I have therefore introduced a compound solution of this substance with peroxide of hydrogen and also a number of other solutions, all containing peroxide of hydrogen and definite percentages of various antiseptics under the name of "Kingzett's Bactericides." The preparation of these fluids has involved me, not merely in this and the preceding investigation of a similar character, but also in another study which is not yet completed.

In conclusion, I may perhaps be permitted to make one remark concerning "Sanitas" fluid, and indeed, it is only fair that I should insist upon its great value as a disinfectant for popular and medical use, being wholly innoxious and thoroughly reliable, it having been shown that 10 cc. is equal in antiseptic effect to half that quantity of a 5 per cent. solution of perchloride of mercury, and in addition it is a powerful oxidant.

With respect to the comparative antiseptic values of the better known chlorides, nitrates, and sulphates, the results generally confirm my earlier ones, but the chlorides of aluminium appear to have a somewhat higher value than that formerly assigned to them. It may be said by way of summary that the chlorides, nitrates, and sulphates of the alkalies have slight antiseptic effects, and those of the alkaline earths are not much better. The compounds of manganese, zinc, tin, iron, lead, and aluminium are all of value. As a rule the chlorides are to be preferred. The compounds of copper and mercury are comparatively most effective; the nitrate of mercury is, however, not so reliable as the chloride, which is the most active antiseptic amongst these substances.

The general results will, I hope, be of service in this way, among others, that when a so-called new disinfectant or antiseptic preparation is submitted to the public, directly the composition is known, the approximate value may be ascertained by reference. For instance, so-called kamphorkalk is said to be a mixture of the chlorides of sodium and calcium with a sprinkling of camphor, and it cannot, therefore, be assumed to have a much higher antiseptic value than the chlorides alone, and that is of the weakest character from the comparative point of view indicated in my observations.

FOOD AND DRINK.

By E. Bonavia, M.D., etc.

(*Continued from p.* 398.)

Mr. H. M. Stanley, in his book on the "Congo," vol. ii., pp. 282—296, after giving one of the most frequent causes of fever—a chill[1]—gives what he considers the best kind of food for the Congo region. "Let there be a variety of fresh animal food; well-cooked beef, mutton, game, fish and fowl, with vegetables, etc., etc. . . . Even although other externals are not quite perfect, good food will better enable one to live and withstand the troubles of climatic change than bad food. But about 'beer' I differ. The English beers are too bilious for Africa, and the German beers are not absolutely necessary, so long as red and white wines, clarets and madeiras are obtainable." . . . And he strongly recommends that wine should not be taken during sunlight. "To drink little wine is excellent advice, but I am not yet prepared to admit that total abstinence from wine is better than temperance, either in Africa, or in Europe." My native assistant told me that he found alcohol (native spirits) one of the most efficient remedies in pneumonia among the natives, both immediately after the acute stage, and during weakness after recovery. I believe that a large proportion of the natives of India, who are put down by the "*chowkidâr*," as having died of fever, are cases of pneumonia, natives being very subject to this form of chill at certain seasons, especially if their standard of health is lowered.

The medical officer of one of the Indian railways, who has much experience of European drivers and guards, informed me that he did not think in the least that teetotalers were any less subject to fever than their moderate drinking brethren. He said, "I have one man here who 'lushes' whenever he can. He *never* gets fever. I have lots of moderate fellows, too, whose ailment never is fever." He also said, "I do not think one bit that 'teetotalers' get over fever more readily than others. They never have the bottom that one seems to have who occasionally takes his glass, but you will understand that, from the nature of the railway service, we have *no drunkards*—it is instant dismissal."

I was once told the story of a young doctor in the Indian Medical Service, a total abstainer, who had a bad attack of fever shortly after going to India. He recovered from the fever, but could not get over the weakness it left behind. His friends urged him to take some stimulant, but he resisted until one day he gave in and took a "peg." He afterwards said that he had no idea before of the value of alcohol, to help one out of the debility left by fever. Of course, these are hearsay facts. Another total abstainer, an engineer, found that in India it was impossible for him to do his work efficiently without something to compensate for the absence of alcohol, so he took to the habitual use of large doses of quinine. This drug, however, when taken in excess, irritates the nervous system, I think, more than alcohol in excess; and as to coffee, I think one is readily made angry at things after taking coffee, which he would probably *laugh at* under the influence of a moderate dose of alcohol.

Dr. E. T. Tibbits, in his "Medical Fashions in the Nineteenth Century," says of alcohol: "For my own part I cannot help feeling that, when employed with discretion in definite quantities, it is one of the most useful and energetic therapeutic agents we possess, and for which no adequate substitute has yet been discovered." Shortly after the capture of Lucknow in 1858, I had under my charge more than a dozen Sepoys, all suffering from large unhealthy ulcers on their lower limbs. I tried every remedy for many days, and so did the field surgeon, but without any visible effect. I then gave each a measure of rum, diluted with water, morning and evening. Within a fortnight, many of the sores had almost healed, and the others were in a healthy condition, and healing rapidly.

In the *Pioneer* (an Indian paper) of the 24th June, 1885, Mr. T. Thornton Macklin, medical officer of the East Indian Railway, says that he has had experience of the Arctic and equatorial regions, and has been over the far

[1] My own experience in India confirms Mr. Stanley's statement—viz., that a *chill* is one of the most frequent causes of *ague*. This is also a *faith* with Dr. Law in Eastern Africa.

west and the nearer east. He has experimented with alcohol on himself, and on others. He says he was five years a total abstainer, and has been for rather less than a quarter of a century a *legitimate user* of alcohol. Regarding this drug, he has come to the following conclusion: (*a*) Under no circumstances ought alcohol to be taken in early morning, or even during the day. But it may be used with much benefit and comfort in small quantities, under almost any circumstances, after sundown, and the labours of the day are over. (*b*) Alcohol should not be taken if about to undergo any physical exertion, and especially if unusually great, either night or day. But it is advantageous after prolonged and sustained exertion, either in heat or cold, if about to rest for the night, and in cold countries, if there is proper protection from further exposure. (*c*) Alcohol should not be taken if about to be exposed to extremes of temperature, either cold or heat, whether actively or passively engaged. But it can be taken at any time almost, after exposure to extremes of temperature. Mr. Thornton Macklin speaks of ordinary healthy men. He has repeatedly known cases where no food could be taken without a stimulant. This is a sensible view of the advantages and disadvantages of alcohol. It is evidently derived from actual experience in various parts of the world, of the effects of alcohol, both on the writer himself, and on others.

My own belief regarding alcohol, which has grown up from experience, conversation, and reading, is the following: I do not think there is anyone more offensive than a drunken person, or more unsatisfactory than one addicted to excess in drink. Excess, even when the person does not become what is called tipsy, is very harmful, although exceptions occur in which persons drink largely, and live to an old age, without much apparent harm. I have seen several persons, who, although never drunk, habitually took alcohol in excess. Among these I have seen four or five cases of "alcoholic paraplegia," that is, total paralysis of the lower extremities. Death in all these cases followed not long afterwards. I believe that in cold regions it may be dispensed with, but that in warm climates it is beneficial, both in health and sickness. In Cassel's "Family Magazine" for July, 1888, "Scientific Temperance," p. 461, Dr. Benjamin Ward Richardson is reported to have stated that alcohol "unquestionably lowered the temperature of the body." This may perhaps be the reason why the use of it is of advantage in tropical climates. My experience is that in hot climates, taken in moderation, it is indispensable for steady, efficient, and interesting work in health, and for recovering from the prostration ensuing from fever and other diseases; that even in hot climates, I think less of it is required in winter than in summer. It is not, as has been supposed, only a question of pleasure and enjoyment in the act of drinking, and in feeling toned up afterwards. It appears to be a far more important question—viz., that of health, energy, and intellectual efficiency *next day*. No doubt all important acts in the progress of life have become associated with a feeling of "pleasure and enjoyment."

I have been informed that railway officials, guards, drivers, etc., in India, who are not "teetotalers," do their work more efficiently and satisfactorily than abstainers. Many Europeans in India will say that, during the hot weather, they cannot touch their dinner till they have taken a stimulant. My own experience corroborates this. Even children in the hot weather, in the plains, lose their appetite, and a teaspoonful of whisky or brandy in a tumblerful of water, taken with their food, enables them to enjoy their food. Dr. Parkes made careful experiments with alcohol at Netley. He came to the conclusion that a certain dose of alcohol, taken in a diluted state, increases the appetite. It does so probably by arousing the action of the nervous centres, and, through the means of their telegraphic communications, setting the glands and other feeding apparata at work. It is very probable that just *before* any sustained muscular exertion, taking alcohol is a disadvantage; but taking it in moderation at the end of the day's work, is far from being injurious. I think it recuperates the system and recharges it for both mental and muscular exertions for *the next day*. But it is especially as an *intellectual developer and sustainer*, that I think it of importance. If, however, a person has not sufficient control over his actions, the best thing for *him*, and those who depend on him, is to become a "total abstainer." I believe that, taken in moderation, alcohol is one of the greatest gifts God has given to man. It is not improbable that, in spite of all the miseries (and what step in man's progress has been free from miseries?) brought on by ignorant persons, and those who misuse it, alcohol is inseparable from the civilisation of man, and from his mental progress. In some shape or other it appears to be in universal use where not kept down by religious custom or law. It is now sufficiently proved that the people of Europe owed their culture to the more ancient civilsation of Assyria. Not only this, but it is now even asserted that China owed what culture it had to importations from Assyria. Assyria and Babylonia then appear to have been the "cradle" of human civilisation (or at all events *one* of its cradles).

It is therefore interesting to note that the cradle of human culture was also the place where the *vine* was so common, that it was almost *indigenous*, so much so, that Assyrian artists used it entwined round another of their very useful trees—the date-palm—as a motive for wall decorations in their palaces and temples, and symbolized both in their *Sacred Tree*. It may perhaps have been unavoidable that man may have had to pass through a period of drunkenness before he came to learn the right use of this implement of civilisation. But it is, I think, a hopeful thing that the laws of nature are adequate to weed out, in course of time, all those, who from stupidity, misuse alcohol, and leave the course free to those only who have sense and forethought enough to use rightly this wonderful agent. In health, I know no better calmer of the day's troubles, and no better awakener of the intellect to the wonders of creation, when used in moderate and diluted doses. In disease, there is probably no drug so efficient and so useful in re-establishing health. In all cases, as with other drugs, it should be used with care.

We have been told over and over again, that for the soldier the best thing is *total abstinence*. But in war time *total* efficiency must be taken into consideration—in battle, in camp, in marches, in defeat, in time of sickness, etc. That army is the most efficient, it would seem, which gains the greatest number of successes, with the least loss of life, whether by the bullets and sabres of the enemy, or by disease. No one perhaps would assert that during the Peninsular war the British soldier was the model of sobriety, yet this is what Napier is stated to have recorded of him:[2] "That the British soldier is more robust than the soldier of any other nation can scarcely be doubted by those who,

[2] *St. James' Budget*, November 15th, 1884, p. 13.

in 1815, observed his powerful frame distinguished among the united arms of Europe; and notwithstanding his habitual excess of drinking, he sustains fatigue, and wet, and extremes of cold and heat, with incredible vigour, when completely disciplined; and three years are required to accomplish this. His port is lofty, and his movements free; the whole world cannot produce a nobler specimen of military bearing!"

Then in the words of Boorde,[3] although beer engenders gross humours, "it maketh a man strong—strong and solid of wit, of sinews, of nerves, of temper, as hardly any other food or drink shall make him. All the wine-drinking peoples have always had the better of the water-drinking; all the beer-drinking peoples (who have had the wit to drink what good wine they could get likewise) have had the better of the merely wine-drinking." Then with regard to seamen, I can only say that an officer of the P. and O. Co. told me that the Italian sailors they employed on the Mediterranean lines were efficient and sober, and that the quartermasters were smart men. They *all* had their daily allowance of wine. That it is possible for a nation to make use of wine daily with their food, without exceeding, is amply proved by the Italians. An American missionary in Rome once told me that he never thought of speaking against the use of wine, because he had never met with a case of drunkenness. I believe that ennui and *want of sufficient sleep* have a great deal to do with creating a craving for liquor, in order to restore the balance. Excepting cases of inherited habit, which may or may not have been induced by ancestral irregular habits, the above appear to me the main causes of drunkenness. It has been said, omnibus drivers and conductors, in London, are sometimes worked for sixteen hours. In addition to this excess of work, in winter they have to counterbalance the low external temperation. If the tale of their excessive labour is true, it is no wonder that they are obliged to tipple at frequent intervals, and that their terminus is usually a public house. The question is, does excessive labour lead to the habit of drinking? Even if you fully fed a horse, could you overwork him without plying him with stimulants? On one occasion in India, in the hottest weather, when it blows a scorching hot wind, I was requested to report upon the state of an engine-driver. At one of the previous stations, while the train was waiting, he had fallen asleep on his engine. I made a careful examination, and enquired into the number of hours he was obliged to work: he was working over-time. I reported that the man was in a fit state to take the train on, and that, owing to the number of hours he was obliged to work, I thought it impossible for him to do that work at that season without drinking more than usual. Competition drives men to work over-time, and this, I believe, drives them to drink. Remedy exhaustion by overwork and want of sleep, and I believe you will, to a very large extent, remove the craving for excessive alcoholic drinking.

In the olden times in India, Europeans consumed alcoholic drinks much more largely, and this I think was undoubtedly due to ennui. Then they had no post, no railways, no amusements, and nothing to read. In the "Echoes from old Calcutta," by H. E. Bousteed, p. 143, it is stated that Macaulay thus wrote of Calcutta: "Let me assure you that banishment is no light matter; no person can judge of it who has not experienced it. A complete revolution in all the habits of life; an estrangement from almost every old friend and acquaintance. All this is to me at least very trying. There is no temptation of wealth or power which could induce me to go through it again. We have our share of the miseries of life in this country. We are annually baked four months, boiled four more, and allowed the remaining four to get cool, if we can. Insects and undertakers are the only living creatures which seem to enjoy the climate." Philip Francis, member of council, on the same page says: "Whenever I am worth a clear entire sum of forty thousand pounds, secure in England, Bengal may take care of itself. No, not for that fortune, would I spend the same two years again." On the next page, this member of council uses far stronger language. The ennui in India in those days must have been frightful. Things have much improved since then. Telegraphs, regular and frequent posts, railways, newspapers, books, accessibility to cooler climates, etc., have made a great difference in life in India. With a large proportion of the ennui, a good deal of the excessive consumption of alcohol has also passed away. Alas! there is coming to the front a new trouble—the want of *means* to keep up with the civilisation of the period.

With regard to want of sleep, the effect with some is this: The head next morning feels like a balloon, with no power for work, or for fixing one's thought upon anything, and the craving for food and drink is great. The only effect of eating and drinking more than usual in such cases is solely to feel *better*. It takes two whole days of eating and drinking, and two whole nights of undisturbed rest, to restore the nervous equilibrium. But in the first day, after a sleepless night, it would seem as if no amount of eating and drinking would suffice. Whether all persons who do not get enough of sleep drink more next day is impossible to say. That would probably depend a good deal on constitution, state of health, season, climate, etc.

It might be supposed that a small dose of alcohol, taken diluted, would make one hotter in a hot climate, but this is not so. A mild "brandy and soda," or other similar stimulant, taken after coming in from the heat and worry of the work of the day in the hot weather, not only calms the nervous system and the action of the heart, but *cools* the body. About this I feel no doubt. All those who speak and write against the horrors of drunkenness are doing a good work. Nevertheless, the great advantages which moderate and definite doses of alcohol, properly diluted, produce, more especially in hot climates, appear to be beyond cavil. It is stated that some of the best work done at athletic sports has been done by teetotalers; and that in Arctic explorations it has been found that the advantage to total abstainers is great. But surely all the work of the world does not consist only of Arctic explorations and athletic sports.

Tea and coffee may be very useful in their way, but there are certain prominent facts in the world which cannot be made to suit the ideas of total abstainers. The Chinese have used tea from time immemorial, but it has not been shown that they had no need of opium also, and the importations of this drug into China, and the amount the Chinese grow, may probably be an indication of the amount of dissatisfaction which the average human system has to tea *alone*. The Russians are great tea drinkers, but they are also notorious for the amount of "*vodki*" they consume. All over Europe tea, coffee, or cocoa, is used, but the people have not for that reason ceased to want alcohol also. The Turks, Egyptians, and Arabs, are great coffee drinkers, but with that stimulant alone they have

[3] *Saturday Review*, January 22nd, 1887, p. 120.

not done much. Wherever we turn, we find that neither tea nor coffee are equal alone to keep a nation in the front ranks of progress, and, therefore, it would appear that alcohol is essential to enable a people to keep their place among civilised nations, or to push themselves forward and reach a favourable position there. The "Book of Health," before-mentioned, states, "that some of the best shots at Wimbledon have been teetotalers, and Dr. Carver, whose shooting is probably unrivalled, has never tasted a drop of alcohol in his life." To this may be opposed the following statement: It is said that Prince Bismarck, in his youth, "was able to shoot better and drink deeper than any man in the province." Busch has also told us that the Prince, in later days, indulged in combination draughts of champagne and beer. Yet he is among the foremost in Europe, if not *the* foremost. Certainly this does not prove that he is great because he used to drink deeply, but it does prove that alcohol has not *prevented* him from becoming great, and it has to be shown that he would have had an equal chance of becoming great had he been a "*teetotaler*."

It would appear that different people are suited to different places, and the places suited to them. In one place man can live on beef and water alone (perhaps because he can get nothing else), and ride from before sunrise till after sunset, and tire twelve vegetarian feeders; and this in a climate which alternates between freezing and burning heat. In arctic regions, people may be better off by dispensing with alcohol altogether, that is, in a region where the causes of death are numerous, it is better not to add that of cooling one's blood by opening the capillaries of the skin by means of alcohol. In one place, within the tropics, men can eat a variety of animal and vegetable matters, and take a good deal of alcohol, and yet become athletes, with 150lbs. weight, with five feet in height; while others can live on a mixed diet, drink a lot of "vodki," and reside in a tract of territory, which is now and then almost Arctic in the severity of its winter, and still astonish the world with their tenacity, energy, and perseverance. All this can be done, not only without harm, but with advantage. Change the conditions, and probably that mode of life will no longer be suitable. The great point, however, which appears to have been missed is this, that Europeans have invaded a large portion of the world, are invading more, and will probably end by occupying most of it. In the progress of civilisation, their functions will have to be almost omnipotent, and their brain omniscient. They will have to keep in mind the history of the past, and endeavour to foresee the future, and devise things accordingly, in order to keep their place in the race of life. All they have done has been by the help of alcohol (that is to say not without it), and it has to be shown yet whether they would be equal to this infinite variety of functions on a vegetable diet alone without alcohol. In the human struggle for existence supremacy is not attained by those who waste their time in getting up a multiplicity of "fads," and who distract and divide a nation by extensive experiments on it; but by those who have learnt from the past, who can foresee the future, who have energy, perseverance, and a passion for work of all kinds; and above all, by those who may have sense enough always to show a united bold front, and never to give the slightest advantage to competitors, by always keeping their eyes open to their own interests.

The conclusion I have come to about the use of meat, vegetables, and alcohol, by reading, questioning, and observing, is, that vegetables *alone* can give muscle, energy, and endurance, as in the horse, camel, elephant, etc.; that excluding alcohol, a purely meat diet gives far more energy, endurance, and pluck, than a purely vegetable one; that a mixed diet admits of the combination of both qualities in *one* person, and gives him, therefore, a greater range of efficient work and power in the struggle with competitors; that in the multiplicity of functions which civilised man is called upon to perform, a mixed diet, with many variations, and with the *addition* of alcohol, appears to give him the best chance, not only of maintaining his vigour, his pluck, and his endurance, but of superadding tenacity, a passion for work, and a dogged perseverance, so as to enable him to almost expunge from his dictionary the word *impossible*.

The kind of diet which has brought man to his present stage, moreover, admits of his expanding his intellectual vision almost without limit, and thus increasing his intellectual faculties. By its means the British have reached the first ranks of the human race, and they will be wise if they endeavour to *stay there*. We have, all over the world, seen what it means to be *conquered*. If any nation is silly enough to throw away the advantages God has given it, it then becomes a matter of sentiment, uninfluenced by either historical, or accurate knowledge. That the British, however, could have invaded half the world, have stayed there, and multiplied there on turnips and water, or such weak and primitive diet, is a thing I see no reason to believe.

ON A VISIT TO BIRMINGHAM AND TO MR. LAWSON TAIT.[1]

By J. Milne Chapman, M.D., M.R.C.S.,
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As I had the advantage during February of seeing Mr. Tait at work for a fortnight, and of enjoying frequent opportunities of personal communication with him, I have thought that an account of the time so spent might be of interest to the members of our society, and perhaps might not be without profit. In the first place I may warn those, who like myself, may be anxious to see Tait at work, that it is no very easy matter to do so, at least it does not appear to be, though I am quite sure that he will specially welcome anyone coming to him from the North of Scotland where he himself first saw ordinary medical practice. He is a Scotchman, heart, and soul, and delighted to talk to me of his experience while acting as *locum-tenens* and assistant to Dr. Soutar, of Golspie. He receives very numerous applications from practitioners anxious to see him operate, but as the bulk of his work is private and is undertaken in ordinary sized bedrooms, it is impossible for him to gratify them all. On one occasion one of our transatlantic cousins presented himself, watch in hand, in Mr. Tait's consulting room about mid-day and thus addressed him: "How do you do; glad to make your acquaintance; I'm Dr. So-and-so, from so-and-so, in such and such a State; I've come over in the *Etruria*. We got into Liverpool this morning, and I'm going on the fast cars to London at four o'clock, and I'd like to see you do one or two sections." This, of course, is an extreme case, but the applications were so numerous, not only to see one operation but to be allowed to see 20, 30, 40, and 100 cases, that Mr. Tait felt compelled to institute a system of pupilage which is now in operation.

[1] Part of a paper read before the Inverness Medical Society, March, 1889.

He receives four post graduate pupils for periods of six months at a fee of 100 guineas. For this they are privileged to see all operations in the same way that I was, and which I shall presently describe, and also, two at a time, they attend with him when he sees his hospital out-patients on Mondays and Thursdays. This seems a heavy fee for such advantages, but there is no doubt that it is a good speculation for his pupils, and he has many more applications than he can comply with. Those who have already passed through the system and are now at work in America and elsewhere, have, one and all, succeeded in speedily establishing for themselves positions and practices which they could never have attained otherwise. America is an enormous country and possesses numerous large cities, and therefore, openings for such specialists as are thus trained. On my first presenting myself to Mr. Tait on the day of my arrival in Birmingham, he took me to his secretary's room and instructed her to send me word of when operations were to take place, and I was told there was to be one that afternoon at 2-30. At that hour I accordingly returned to the house, and was shown into a small drawing-room in the hospital wing where I was presently joined by his pupils. After waiting a little, a nurse opened the door and we all trooped upstairs into a small bedroom, with white painted wooden floor and strips of carpet. Resting with its lower end against the window sill was a narrow operating table on which lay the patient already anæsthetised. Mr. Tait in shirt sleeves and holding a small knife between his lips, was standing by the patient's side. No greetings were exchanged even by look, nor was a word spoken. One of the pupils rapidly washed his hands and took up his position opposite as assistant. This post, however, is almost purely a sinecure, as Mr. Tait does practically everything himself. The making of the abdominal incision was the work of less than sixty seconds, and what particularly struck me was the way in which he handled his knife. Never in all my experience have I seen anyone make a knife cut like he does. The instrument is a narrow bladed short scalpel, and he lays it down so that the whole length of the blade cuts. The effect is like that of cutting butter with a good table knife. You hardly notice any motion, but the tissues separate in front of the knife, and the incision is made down in many instances to the peritoneum. One or two touches at most make the wound even from end to end, and then he picks up the peritoneum in two pairs of pressure forceps, and cuts it straight down between them, the assistant meanwhile holding one of the two pairs, these are then removed, he runs his knife up and down the peritoneum and the abdomen is open, actually in a shorter time than it has taken me to read this description, and with a neatness and dexterity which I fear no words of mine can fully convey. The case I speak of was one of fibroid tumour, in size about that of a four months' pregnancy. Mr. Tait rapidly enlarged the incision up and down by putting the tissues on the strain with two fingers in the abdomen and running his knife inside the abdomen edge upwards, the whole wall splitting with as much apparent ease as do the leaves of a book before a good paper cutter. He inserted his hand behind the tumour and worked about for a time. As there was nothing to see of the operation for the moment, I turned my attention on the operator's face. It is a curious face, as those who have seen it will readily admit, long and large featured in every respect, except the mouth, which is unusually small with thin firmly compressed lips. A heavy band of hair—which is long and black and glossy—hung down over the forehead and eye, but what then particularly impressed me was the rigid concentration expressed on every line and feature. The eyes were turned upwards to the corner of the window, but were evidently looking at nothing. Presently he said "Trocar," and a long curved one being handed to him, he took it in his right hand and pulled the point back till it was within the canula, and slipped the instrument down in front of the left hand which was still within the abdomen. Having settled its position, he held it secure with his fingers on the canula shield, and having with the thumb slid the trocar forward, he pushed the instrument still deeper, and on withdrawing the trocar there gushed out about a pint of thick offensive pus. He then said that there was the same condition on the other side, and asked for the aspirator, but meanwhile continued to work away at the sac from which the pus had come, and presently brought it to the surface, a hugely dilated Fallopian tube of the right side. He tied the pedicle in the Staffordshire knot and removed it. He then went to work on the other side, but the sac burst, and he simply squeezed the pus out, fished the sac to the surface and ligatured it straight away. He then brought a third mass up from behind the uterus, oval, and as large as a breakfast roll, which turned out to be a dermoid cyst of the right ovary. The pedicle of this was secured in the same way. At the time he gave this third mass not a moment's consideration but laid it aside, proceeding to wash out the abdomen, using three large pailfuls, about the size of stable buckets, of warm water, running through an ovariotomy tube and trocar. During the process of washing out, he moved the contents of the pelvis and the intestines freely about with the left hand to secure their being thoroughly cleansed. Looking at the uterus, he determined that it contained a fibroma, and impressed by the amount of mess that was about, he resolved at once to remove it. As his method of doing this is fully detailed in his writings, I shall not enter into a discussion of the process, suffice it to say that the neatness and dexterity he displayed forced the conviction on me that I was witnessing the performance of a real professor of the surgical art, and thrilled me with a sensation which a lover of music who had never heard other than second or third rate performances would feel were he suddenly to hear the strains of a Paganini. But to complete the history of the case under consideration. It was found that an adhesion which had existed between the rectum and the tumour on the left side, was persistently oozing. To view it properly, he used a reflector, which he held by its handle between his teeth. There was no room for a ligature, and Mr. Tait first tried pressure with a sponge. As this failed to stop the oozing he rubbed the surface over with a piece of solid perchloride of iron, and as even this did not completely succeed, he made a watery solution of the perchloride and applied it with a sponge. He then dried out the abdomen with sponges, inserted a drainage tube, and stitched up the wound. The whole operation took 50 minutes, an unusually long time for Mr. Tait to take over any operation.

Here I would say a word as to a use of the drainage tube, which is but imperfectly understood, and that is its good effect in stopping bleeding from torn adhesions. Blood effused into the abdominal cavity shows little tendency to coagulate save in a very fitful and fragmentary way, probably from its admixture with peritoneal fluid. If, therefore, there is oozing from torn adhesions into a completely closed abdomen, the blood does not coagulate fully, its presence sets up free secretion of peritoneal fluid, which reacts and leads to further bleeding, and still more defective coagulation; whilst on the other hand, if a drainage tube is employed,

and the pelvic cavity kept dry by frequent withdrawal of blood and serum, oozing will soon cease.

The operation in question having been completed, we—that is the pupils and myself—silently left the room, and soon left the house. Next morning I got a post-card, saying that there would be two operations at the Private Hospital at 9.30 a.m., and one at the Women's Hospital, Sparkhill, at 2.30 p.m. The first was a doubtful case of distension of the gall-bladder. In less time than five minutes Mr. Tait had opened the abdomen over the region of the gall-bladder, established the diagnosis of malignant disease of the transverse colon or omentum, and closed the wound. I learned afterwards that the patient left the hospital in a week none the worse. Of course had the case turned out to be one of gall-stones, she would have been relieved of her trouble there and then. In the afternoon I saw an ordinary case of removal of the uterine appendages. I shall not stop to discuss this class of cases; the one that I saw on this occasion was certainly an instance where the operation was perfectly justifiable, judging from the condition of the parts removed. When the operation began, I took out my watch to time it; having carefully looked at it, I put it in my pocket and turned to the operation table, when to my surprise I saw that the abdomen had been opened and Mr. Tait was fishing with two fingers of the left hand (which was all the incision would admit) for the diseased organs. On getting these between his fingers, he slipped down a pair of forceps, seized them, and in this way brought them to the surface, at the same time pressing down the abdominal incision and walls with the back of his hand, and holding the ovary and tube between his fingers. He then passed the ligature through the pedicle, ran the loop over the appendages, arranged the Staffordshire knot, pulled each end firmly, tied a single knot, and fastened a pair of catch forceps on each of the threads, wound the thread three or four times round the handle of the forceps, and seizing a pair in each hand he let go the ovary and firmly pulled the knot tight. This method of securing the knot he carried out without the slightest assistance, and while he held the parts to be removed in his own hand. I describe it thus in detail in the hope that I may convey to you some idea of the marvellous dexterity of the man. The other side was similarly dealt with, and the operation was completed in ten minutes. Mr. Tait only spoke once during that time. Just when the patient was laid on the table, the sister who was giving the anæsthetic put out her hand to lift the patient's arm on the table. Tait tapped her on the shoulder and said, "Attend to your own business." This is quite characteristic of the man. He has everything reduced to a perfect system, and everything goes on with just such steady regularity and apparent simplicity as do the manœuvres of a well-drilled regiment of soldiers. Trespassers, however, even be their fault as slight as the one I have just mentioned, are at once rebuked, just as the soldier would be who ventured on any irregularity during parade.

Among the other cases I saw operated on were a simple ovariotomy, which was completed in five minutes, neither sponge nor fingers having been placed within the abdominal cavity, and the incision being not more than one and three quarter inches long; a difficult ovariotomy; removal of the tubes containing pus; removal of one ovary and tube glued together, and adherent to the back of the uterus and floor of the pelvis, the other ovary having been removed five years previously. In passing I may remark that Mr. Tait has ceased to remove single ovaries (except for cystic disease), as his experience is, that for inflammatory mischief a second operation always becomes necessary sooner or later. I was also present at a hysterectomy, and at an exploration of the kidney. In this latter I saw illustrated the value of pressure in checking hæmorrhage. The wound was of course a very deep one, the pelvis of the kidney being opened into, and the bleeding was very free, much freer than mere oozing; but to reach the bleeding points would have involved enlarging the incision very much. The wound was packed full with dry sponges, and these were firmly held down by the hand for two or three minutes. On taking them out the bleeding was markedly diminished, but had not ceased, so the packing was repeated, and again repeated, when it was found that the wound remained dry. A drainage tube was inserted, and the stitches were tied with a running loop-knot, with long ends so that they might be undone if required. Instructions were left that, should hæmorrhage occur, a solution of perchloride of iron was first to be injected through the drainage tube, and that should this not succeed in checking it, the knots in the stitches were to be slipped, the clots cleaned out, and sponges wrung out of perchloride of iron inserted and firmly packed in. The sponges that were used were simply wrung out of plain water. I have since learned that all the patients I saw operated upon made prompt and good recoveries.

One thing I saw Mr. Tait do which I certainly have no intention of imitating him in. He used two of the fingers of his left hand as a sort of Sims' speculum, and, kneeling by the bed-side with the window facing him—the field of operation therefore completely in the dark—he freely curetted the uterus, without in any way fixing it. He then inserted a short Ferguson's speculum, and through this passed into the uterus a thermo-cautery. No doubt the cervix had been previously fully dilated, and probably the end in view was satisfactorily accomplished, but I hardly think the somewhat free and easy method I have described will commend itself to the profession at large. Though Tait may manage to dispense with the ordinary aids of speculum, light, and vulsella, the general run of us I think had better continue to perform our curettings in a more orthodox fashion.

I was disappointed in not being able to see Mr. Tait perform the operation which bears his name for restoration of the sphincter ani and perinæum, as the written descriptions of it are not very easy to follow. I talked it over with his assistants, and they told me that he only takes five or ten minutes to do it.

It may have struck you that I have alluded to two operations which went no further than exploration—one of the liver and one of the kidney—and here I would say a word in regard to Mr. Tait's position on the subject of exploratory or confirmatory operations, for, in respect to this more than to almost any other question, he has been very greatly misrepresented, and I shall, as far as possible, make use of his own words. We have all heard him spoken of as a man who "would put his hand into a women's abdomen with as little compunction or reflection as he would put it into his trouser pocket," and also we have heard him quoted as saying when in doubt as to diagnosis, "Open the abdomen and find out," or even more grotesquely, he has been accused of not being able to make a diagnosis in the ordinary fashion, but of opening the abdomen and taking a look in when

there is a complaint of anything inside, and of doing this in as much a routine way as one opens the mouth and looks in when there is a complaint regarding the throat. Let me quote his own words:—"I have long since thrown the uncertainty of diagnosis as an impediment to the adoption of proper treatment to the winds, and when I find my patient in danger of death from conditions within the abdomen which do not seem to be clearly of a malignant character, but a correct diagnosis of which is impossible, I open the abdomen and at once make the diagnosis certain, and successful treatment possible." This was written in 1876, and at a later date, he says that he does "the same thing when the conditions were such that the patient's life was a misery by reason of suffering which could not be relieved, or at least had not been in any other manner. The result has been an enormous advance in abdominal surgery, obtained only after a severe struggle with the authority of the elders, who asserted that the abdomen was a region into which the writs of ordinary surgical laws should not run."

As a defence of exploration, I would further quote from Mr. Tait's writings:—"This principle of exploration is nothing new; in fact the way it is sometimes used or rather abused is almost terrible. I once saw a surgeon who is now a baronet remove a breast with a tumour in it, and after the whole thing was over he took the tumour in his hands and drew his knife across it, and out rushed a lot of pus—'laudable pus.' He had made his exploration after the treatment had been completed. If he had explored first, his diagnosis would have been completed before his blunder had been made, and the surgical operation and treatment rendered unnecessary. I have similarly seen a limb amputated for a sequestrum opening into the knee-joint, which a preliminary exploration would have shown to have been capable of removal without amputation, and the limb would have been saved. Crowds of illustration of this kind of practice could be given, showing in the first place that complete accuracy of diagnosis is no more possible in the breast than it is in the abdomen, that exploration is a sound principle when there is doubt, and that many ghastly blunders would be saved if the practice were extended into general surgery. Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it." More than any man, or I might almost say single handed, Mr. Tait has established this principle of exploration in doubtful cases of abdominal disease when life is threatened. He has been the better able to do so from his extraordinary success as an operator. But what one man has done another may do, and I can quite well foresee that before long it will be considered as bad practice to allow such cases to die without operative interference, as it would now be to leave a man blind from cataract, without giving him the chance of again enjoying the blessings of sight, for fear that an inflammatory attack might necessitate removal of the whole eye.

Another charge that is frequently made against Lawson Tait is that he does not tell the truth. The statements he had to make regarding his work in the earlier years of his practice, were so startling and novel, that they were not at first accepted as true. Time—the righter of all wrongs—has proved by results that the facts and theories then advanced can and have stood the test of experience, and though Mr. Tait's theories and deductions are now very generally accepted as correct, the impression caused by their startling enunciation still finds expression in the charge of untruthfulness I have just mentioned. Now, it is absolutely impossible for Mr. Tait to tell lies regarding his operations or his results. Of the four pupils who watch every operation, each keeps an accurate note-book for his own reference and use, in which he details everything that happens, both in Mr. Tait's hospital and private work. This has gone on for years; Mr. Tait's results are published down to February 2nd of this year; yet they have never been questioned by any one of those who, had there been occasion and justification could have done so successfully. May I say more—that I have met eight or ten of Mr. Tait's past pupils, and not one of them doubt a word he ever said. They have seen what others have not seen. They have had personal opportunities of detecting any such tendency to perversion of the truth, but one and all they have expressed their unbounded admiration for the man and for the surgeon. I had myself good opportunities of forming an estimate of the character of the man. We spent together from Saturday to Monday at Malvern, as guests of an old Scotch practitioner there, and many were the topics that we discussed. I do not wish to make this anything of the style of the modern society journal, so I shall not enter into the private life of the man, I shall only say that I found, as I was fully prepared to find from a perusal of his writings, that he is a man of master intellect, that the range of his knowledge is wide and far reaching, that the accuracy of his knowledge of details is surprising, that his tastes are refined and cultivated to an extraordinary degree, and that his capacity for the enjoyment of recreation, amusement, and the good things of the world generally is unlimited. As to the type of his mind, I would say that it is essentially mathematical and scientific, and I would ask you, is it not your experience that those possessed of minds of such a type are naturally and instinctively, as well as habitually and by training, rigid sticklers for the truth?

Before concluding, I would briefly touch upon three outstanding departments of Mr. Tait's life-work. Already I have referred to what he has done in establishing the principle of exploration as applied to the abdomen. One outcome of his work in this direction has been his demonstration of the fact that very many of the cases where masses are felt at the sides of the uterus, and which are called peri- or parametritis, and are treated as such, are really cases of occlusion and distension of the Fallopian tubes with fluid of various kinds, or of chronic inflammatory adhesion of tube, broad ligament and ovary; cases in which the functional utility of the organs is completely destroyed by disease, and in which, further, the disease in some cases—such as pyosalpinx—constantly threatens the life of the patient; while on the other hand he has demonstrated that such cases are quite amenable to surgical treatment. What suffering he has relieved and averted, what life he has saved and prolonged by these means passes my ability to conceive. His work too in elucidating the natural history of uterine myomata, and in elaborating their surgical treatment, is to my mind of the greatest interest and importance. His papers on these subjects, at present appearing in the *Birmingham Medical Review*, will well repay careful perusal, and ought to prove an effectual antidote to the effects of the electrical mania which is at present rampant. And finally there is what I consider the crowning triumph of his life, the establishment of the principle of immediate abdominal section in cases of ruptured tubal pregnancy by his magnificent results—two deaths in forty-two cases—of an accident which, without interference, is uniformly fatal.

CHILL, OR RIGOR.

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(*Continued from page* 406.)

4. *Gradation of Fevers, Inflammations, etc.*—Under the last heading of "Approximative Groups of Diseases which have Rigor as a Fundamental Stage," I have cited some border-land types of fever and inflammations in order to see that Rigor holds the same place in them as it does in typical fevers and inflammations. I propose now to further view some of the gradations of fevers, inflammations, etc., and thus yet more to see the fundamental unity of method and the wide common Forms or order of nature in disease. I shall only briefly cite some instances, mainly drawn from the observation of disease, in Cape voyages from England to Australia, and from Calcutta to the West Indies; in all cases with many hundreds of people.

Scarlet fever with eruption, sometimes with and sometimes without sore throat, existed during the first nine weeks of the voyage of the ship *Tarquin*, Plymouth to Adelaide, 1864. There was also a series of sore throat cases, of most varied degrees of severity, accruing during the same period. The sore throat cases continued to appear during weeks after the scarlet fever cases had ceased; but there evolved also, and mostly in later weeks of the voyage, bronchial febrile cases, which commenced as sore throat; diarrhœa febrile cases, which commenced as sore throat. Also there evolved febrile attacks after shivering, which were called by the patients, "aching bones"—"Can't keep heat in me." These ended in bronchial affection. When in presence of the phenomena I was deeply impressed with the continuity of the whole series.

In the ship *Adamant*, Plymouth to Adelaide, 1864, there was a series, in continuity, of scarlet fever, redness and ulcers of the tonsils, simple redness of the tonsils, febrile diarrhœa, and "colds," or febricula. It was impossible to say whether certain cases were scarlet fever or sore throat, or diphtheria. I have seen paralysis follow what could only be regarded as cynanche tonsillaris. In another case long continued paralysis followed what could only be regarded as scarlet fever.[1] The cases of sore throat were obviously as "general" diseases as were the scarlet fever cases. The sore throat cases presented the most varied types. In different voyages in high south latitudes I have seen epidemics of cynanche tonsillaris; some of the cases were of extreme severity. Young women would have a rigor in the night, and the next day the tonsils would be each a mass of white slough. Whooping-cough and scarlet fever co-existed in one case; measles and whooping-cough co-existed in another case.

In the ship *Hougoument*, Plymouth to Adelaide, 1867, a case of scarlet fever showed in the sixth week, and another in the eleventh week. There had been a continuous epidemic of measles during the first eleven weeks of the voyage—twenty-eight cases in all; but there was a continuous series of sore throat cases from the second to the fourteenth week. In striking continuity with both the measles and sore throat cases were a continuous series of "colds" (febricula) and diarrhœa. The first and only case of whooping-cough evolved in the tenth week, in 41° S. L., 6° E. L.

I was at the time deeply impressed with the seeming alliance and continuity of the measles, "colds," and diarrhœa; the "colds" and diarrhœa were general febrile cases; the Form or symptom most common to them all was rigor.

Measles, in different voyages, showed the most striking variation; in one epidemic the longest duration of the disease from first ailing to the return to normal temperature was ten days; the least duration of other cases in the same epidemic was three days. The highest temperature in any case was 103°; the highest in some other cases was 99°. Whatever be the profounder nature or Form of the pathology of measles, I was often forced to conclude that the lung affection was of greater place than other symptoms—that is to say, that although we properly enough confine the word measles to a febrile disease having a special eruption, and of an infective and epidemic character, yet bronchitis is so early and constant a symptom, that we are led to look, in the deeper pathology of measles, for some blood or protoplasmic type of change, which is common both to measles and to acute bronchitis. In many voyages I have observed a prevalence of a type of cases commencing with rigor, and followed by headache and diarrhœa. They usually happened in high south and cold and depressing latitudes; they were of a fever type. In other voyages downright continued and fatal fever evolved, in the same latitudes and environment.

But it was often very strikingly seen, with natives of India, that in colder "Cape" latitudes they would suffer intermittent fever, in some of its irregular forms (ţap), and which would be followed by, or almost immediately associated with, bronchitis or diarrhœa. It would be to take a very limited view of such cases to consider them as simply bronchitis or diarrhœa; they were cases of fever—general diseases—of which the bronchitis or diarrhœa were after-stages. The protoplasm of the native of India, owing to long ages of sameness and deficient food, and to the exhausting influences and trying extremes of the climates, may be viewed as in a state of unstable equilibrium. The slightest change of place, wind, and sometimes even the mere eating a meal, will induce fever of an irregular intermittent type, which very often will pass on to bronchial affection or diarrhœa. Indeed, in too many cases I have seen the native sink and die, with slight diarrhœa or bronchial affection, which commenced with slight fever. Natives of India will often die where, as far as local affections go, there has been no cause for death; and yet one could almost with certainty predict their death. Such cases, like to those of diarrhœa and bronchitis, with slight febrile onset, point to primary devolutions of protoplasm which are not yet recognizable by structure or by our present powers of chemical analysis, and which change the correlations of mode on which the complex and delicately-equipoised harmonies of life depend. Natives will be seemingly well; a slight intermitting fever (tap) will occur in the evening, followed by two or three motions in the night; there will follow a collapse, out of all proportion to the amount of diarrhœa. Such cases will often get weaker and weaker, and die. To say that they have died of diarrhœa is no just measure of such cases. The whole protoplasm, like to that of a leaf in Autumn, seems to be of an expended vital energy. Such individuals are ever near to those degrees of protoplasmic devolution, which result in cholera. No specific difference separates the

[1] See *Medical Press and Circular*, January 7th, 1880, p. 3.
Surgeon J. Hume, of Amrasti, India, reports a case of paralysis of the upper limbs after small-pox.—*Indian Medical Gazette*, December, 1883, p. 351.

"tap" of the native, with its slight yet fatal diarrhœa, from the graduations of cholera. In these obscure and ill-defined fatal diseases of natives rigor is the primary deviation.

I cite the following cases to show the variation of disease with changed environment. This special variation was seen in the cardiac system. Low pulse followed in the series which rigor initiated. One cannot avoid asking the question: Was the rigor the primary stage of the evolution of poisons in protoplasm and the blood, whose action on cardiac centres was like to that of known vegetable cardiac depressants? Did a reversion of protoplasm happen toward bodies isomeric, or of like molecular energy and power, to some of the known vegetable poisons? The cases occurred in the ship *Hougoument*, Plymouth to Adelaide, 1866. An epidemic of measles existed.

On June 26th, in 19° N.L., 21° W.L., Reed, m., æt. twenty-five, showed measles. "Yesterday evening shivered; was hot in the night; had pains in legs and arms; pulse 100; copious eruption of measles; tongue large and moist, slightly coated.—June 27th: pulse 75; copious eruption; skin cool.—June 28th: cool; no pains; eruption out full; pulse 72.—June 29th: copious eruption; cool.—June 30th: pulse 44; says he is well."

On the same day as that on which Reed showed measles—June 26th—Cunningham, m., æt. twenty, said: "Was well yesterday evening; felt a slight shivering at bed-time; was restless during the night; took a sea-water bath at 2 a.m. this morning; had several motions; pulse 60; cool; dull-looking.—June 27th: pulse 48; cool; no pain.—June 28th: pulse 48, regular; seems well."

On the same day—June 26th—Pattison, m., æt. thirty. "Shivered yesterday, . . . weak, dull, . . . tongue full, soft-looking, whitish, . . . a patch of dirty yellowish ulceration on back of pharynx; . . . a little redness of fauces; . . . uvula slightly swollen; . . . says he is very weak; looks dull and depressed; pulse 56."

In the same latitude, Glachlan, m., æt. twenty-one, showed measles on June 27th; pulse 140.—July 4th: 8° N.L., 25° W.L.; pulse 66.

In the ship *Tarquin*, when about on the Equator, on September 20th, 1864, the following case showed: Coleman, m., æt. twenty. "Has had offensive breath for ten days; now worse; says he is very weak—no spirit; no cough or shortness of breath; no dulness on percussion on chest, save perhaps on a spot in left (infra?) axillary region; some few moist râles heard there; breath-sounds heard good everywhere; no pain in liver; liver natural size; at times some pains across abdomen; bowels open; vomits sometimes; voracious feeling of appetite, but yet cannot eat; gums a little scorbutic; pulse 20."

I have seen slight bronchial attacks, a few weeks after sailing, show quite a collapse and low pulse.

I have cited these varied types of disease—scarlet fever, measles, "colds," irregular intermittent fevers, bronchial fevers, diarrhœa, slow pulse cases, etc., as illustrations of the great truth, that even to common observation, the phenomena we group as distinct and specific diseases, are not fixed. With the change of environment, which is involved in a voyage from 50° N.L. to high S.L., the protoplasmic pendulum oscillates wider than under its habituated environment of evolution and physical correlations; or in chemical language, the reactions of protoplasm under the new and varied reagents and physical existences of different climates, take a wider range, and producing new bodies, or new molecular conditions in protoplasm, cause the low pulse. The pulse of cases of measles was like to the pulse of cholera. It seems like an *à priori* truth, that a *common type* of the devolution of protoplasmic albuminoids must have occurred in all the so-varied diseases; and again I must remark that rigor was the so-far primary fact in all.

5. *Gradations of Fevers, Inflammations, etc., further illustrated*.—W. H——, æt. thirty-five, m., a cabman, was well on the morning of April 23rd, 1889. He went to his stable, and there had a rigor. I first saw him on April 27th. From the 23rd to the 27th he had had pretty constant vomiting of greenish bile; also much purging. On April 27th (temperature 101°, pulse 100) I found pneumonia of right apex; the small lobe of liver was a little painful on percussion; no abdominal tenderness; no albuminuria; he was bright and cheerful, but had wandered in mind a little during two nights. He was flushed and anxious-looking. He had drank freely for six or eight months past. I prescribed ℥i. of tinct. aconit. with gr. xv. pot. bromid. every two hours; cold water as a drink. April 28th.—Pulse 100, temperature 100°. The pneumonia at right apex was very slight in extent; dulness on percussion less, and crepitation less. The patient now passed from my care to that of Mr. L. Pilkington Jackson, who prescribed effervescent salines. Mr. Jackson informs me that the temperature remained at 100°, the pulse constant at 108. Day after day he became drowsy; the vomiting and diarrhœa continued up to forty-eight hours of his death, when both ceased. No new localisations developed. The drowsiness deepened, and he died on May 6th, fourteen days from the primary rigor. From my first visit, I thought that the man would die, though the localisations were but slight; but how did death result? I can form but one hypothesis—that the primary rigor indicated disturbance of protoplasmic correlations; or in chemical language, that new bodies evolved out of the protoplasm, which acted as veritable poisons. The extreme vomiting, from the date of primary rigor, and lasting twelve days, showed that poisons had evolved in the protoplasm, just as surely as if he had taken apomorphia or tartar-emetic. Such a case I should treat by Warburg's tincture, or by the hypodermic injection of quinine.

A pensioner, of fine physique and of good general health, had a rigor one night after exposure on a pier. He developed some congestion at the base of the right lung. There was no marked dulness on percussion, no true crepitation; but he had dusky countenance, numerous petechiæ, dark dry tongue, much delirium, and great jactitation of forearms and hands. He had the aspect of typhus. There were no localisations of importance. He died ten days after the primary rigor. Of what disease did he die? I can but form the hypothesis that the amazingly complex and highly-differentiated protoplasm—blood, cell-contents, etc.—reverted in the rigor to less vital vito-chemical bodies, which were inharmonic to his survived and then-present modes of vital being; in chemical language, that poisons evolved in his system. He had not the extreme vomiting of W. H., but the stupor was greater. One cannot but ask: Did bodies isomeric with or of like mode or molecular motion to some of the opium, diethyl, or dimethyl-methane, etc., series, evolve in these cases?

E. P——, æt. sixty, a fine, active man, of highly sensitive temperament, remarked on the evening of May 23rd, 1880, that he felt unusually well. He took an evening walk, and had a rigor in the night. I found him at 10 a.m. the following morning with the aspect of a man death-stricken.

The heart's action was tumultuous, without endo- or pericarditis. A slight pleurisy developed at the right base. He died on May 29th, of suffocative bronchial râles, which had daily accrued. His aspect the morning after the rigor showed death; pulseless at the wrist, the heart tumultuous, the countenance pale, in cold sweat, and anxious. He had a large thorax and large lungs, but mucous day after day accumulated in the tubes. The molecular correlations of his protoplasm were disturbed in that rigor, as surely as are those of the native, when bitten by the cobra in the hot season. Some poison, or inharmonic molecular mode and motion evolved in and of the rigor. We have ceased our surprise at the amazingly different powers which isomerism and allatropy in the inorganic and organic worlds show us. We may be sure that the Form or law of continuity does not abruptly cease at the threshold of the actually living. The symptoms which follow rigor in different cases simulate the effects of a great many of the vegeto-alkaloid poisons. It seems as though albuminoids and protoplasm, in their evolution, held dormant or latent the vast series of the earlier vegetable products. These latter, or bodies isomeric or allied to them, seem to be absolute parts of the reversion or death of albuminoids and protoplasm. E. P——'s aspect the morning after the rigor was like to that produced by the administration of a fatal dose of nicotine.

A girl, æt. fourteen, previously healthy, "took cold" at a Sunday School treat in the country. She had a rigor on the evening of her return home. Until her death, five weeks after, I could never venture to give the disease a name. It was a case of continued fever. Sometimes the symptoms inclined one to class it as typhoid; at other times, it looked like threatened tubercular meningitis—but I could never say which it was. The *post-mortem* revealed nothing: there was no sign of typhoid in the intestines, and no sign of meningitis within the cranium.

J. C——, m., æt. fifty, consulted me on November 7th, 1879. He had chronic abscess of the sub-maxillary glands. He said that he had similar abscesses when a young man. He had led an active and intellectual life. I prescribed pot. iodid. and tinct. bark; also cod-liver oil; and advised his going away for change of air. He did not, however, go away. On November 27th, he attended a public meeting in a large, new, and damp building. Rigor followed on the same evening.

November 28th: 8 p.m., temperature 102.8°; pulse 120; breathing 20; slight fœcal smell of breath. The bowels, which habitually were regular, had not acted from the 21st to 28th; on the 28th they had moved after the use of some aperient pills.—29th: Temperature 101.2°.—30th: Temperature 100°; pulse 100; no vomiting.—December 1st: Temperature 98.6°; pulse 90; no pain; no vomiting; two natural motions.—2nd: Temperature 100.4°; pulse 88; no pain; not sick; four motions; no wandering of mind.—3rd: Febrile smell of breath; no pain; no aching of limbs; no wandering of mind; feels prostration; no motions; pulse regular, but weak.—4th: Temperature 99.3°; pulse 90.—6th: Temperature 98.2°; pulse 86; sleeps much; no head symptoms; one motion; no spots on skin; no pain; tongue dry.—7th: Temperature 97.4°; pulse 90; tongue dry; says he is better.—8th: Temperature 100.4°; pulse 96; bowels confined for three days.—9th: Temp. 99.4°; bowels open once with full pultaceous motion; no blood; no pain; tongue dry; no wandering.—10th: Temperature 97.6°; pulse 120; vomited green bile; feels sick; tongue moist; no tremor of wrists or limbs; pulse feeble.—11th: Temperature 96.5°; pulse 100.—11th, evening: Temperature 98°; bilious vomiting; two liquid motions.—12th: Liquid motions; vomiting; no pain.—13th: Temperature 97.4°; pulse 90.—15th: Vomited bile; natural motions.—17th: No vomiting for two days past.—18th: vomiting returned; one motion; fell off the commode in syncope, and died in an hour of hydrops bronchialis.

In the earlier days the liver was large, but returned to its natural size. The pulse was small for a few days before death, and I now and then in the later days found a semi-intermission. No complications or localisations of disease could be found. The patient was a bright intellectual man, and always received me with brightness and cheerfulness. I assumed that I had a fatty heart to deal with, and urged the use of the bed-pan; he would not consent, and fell off the commode, and died. The basis of treatment was quinine, dissolved in a mineral acid. Opium was now and then used to check diarrhœa. Alcohol was freely given. But what name, having any scientific precision, can I give to the case? Suspended or lessened conditions of the vital energy were seen in the existence of chronic abscess, and in the suspended action of the primæ viæ—the seven days' constipation. The patient had no localisations of any kind, except some fulness of the liver during the first week. No sign of abscess of liver could be traced; no albuminuria; the vomiting was not associated with inflammation of serous membranes, or of the diaphragm.

Had the system absorbed poisons from the alimentary canal during the seven days' costiveness? On November 28th, though the bowels had on that day moved after the use of pills, the breath had a fœcal smell; but a deficient vital energy must have existed which led to the costiveness. Costiveness is not an affair confined to the bowels. The whole system must have been in low energy, and of which the costiveness was but one sign. Then followed the rigor on November 28th, followed by slight pyrexia for six days. After this came a prevailing sub-normal temperature for two weeks, and death from the heart.

Mr. W——, æt. thirty-five, I saw on October 15th, 1884. He had had violent delirium and much excitement during the two preceding days and nights. Temperature 98°; pulse 84, regular. There was some congestion at the base of the left lung. Seven days ago he had rigor. The delirium was sympathetic (so-called). Shall we ascribe the delirium to the acute congestion of the base of one lung? or shall we not rather view the lung affection and the delirium as having a base in common, in some changed conditions of protoplasm, induced with and of the rigor?

Professor Caley tells us "that theoretically, for a body whose formula is C_{13} H_{28}, there exist 799 isomeric bodies. It is worthy of remark that the mathematical theory agrees with experiments for the first five bodies, thus affording strong confirmation of the truth of the remainder" ("Nature," vol. xii., p. 483, Report of B.A., Bristol, 1875). With such a range of isomers, from so simple a combination as C_{13} H_{28}, may we not justly expect that a vast range of isomeric bodies shall evolve or revert out of the complex and highly-atomic albuminoids? Do we not know further how intensely unstable are some groups of the N compounds, and how vast is the molecular energy of bodies of the N series?

To what direction *must* reversion of protoplasmic albuminoids tend, but to the earlier-typed vegetable organic bodies? Evolution and devolution, or reversion, must be

in absolute continuity. "In the midst of life we are in death." If we hold the doctrine of cosmic evolution, there *must* be a continuity and correlation between all animal products and the productions of the vegetable world. That opium will deepen sleep proves the absolute continuity of the molecular Forms of opium and nerve protoplasm. Sleep is not a thing or entity added to the body; it is an evolution in an exact and orderly method in and of the modes or molecular motions of protoplasm. In the cosmic evolution opium must have a harmonic molecular fitness to the modes of nerve cells; and so in reference to all other poisons and drugs—*e.g.*, nicotine, strychnine, etc. We see parts of an as-yet-unread law of molecular energy and motion, whose results are the organic, and life, and health, and disease. Are we justified in holding that in the cosmic evolution, the vegetable higher differentiations, the carbo-hydrates, the fatty acids, the aromatics, the alkaloids, are earlier and more simple than are the higher albuminoids? Is it not a just *à priori* expectation that protoplasm, in its reversions, should pass into a vast series of bodies, isomeric with the vegetable alkaloids, aromatics, fatty acids, and carbo-hydrates? And do not the symptoms of the so-called different diseases seem resultants of such reversions? And does it not seem that rigor is here involved, as the most fundamental, yet recognised, Form in pathology?

There is obviously a great as yet unread law of the organic evolution; the cell must have cosmic foundations and correlations; the reversions of protoplasm must be as orderly, and by law, as is the evolution; both the evolution and reversion must be in continuity, must be parts of one series. The laws of continuity and cosmic evolution compel us to hold that molecular modes, motions, bonds, and properties which are existent in the vegetable kingdom—opium, strychnine, atropine, etc., etc.—must be, in some degree, latent in the higher vital differentiations—*i.e.*, in animal protoplasm: the reversions and devolutions which lead to disease, of necessity *in some degree* take a backward path parallel to the primary evolution; how else can we bring under any law such facts that tetanus, following simple wounds, is indistinguishable from tetanus following the use of strychnine. In the former instance, modes of motion must have evolved in protoplasm, like to those which exist in strychnine. The same reasoning will apply to cases of coma, at the end of various diseases, and the powers of opium. We already know how vast is the variety of bodies obtainable from re-actions, in our laboratories, on albuminoids. They must be infinitely greater in the cosmic correlations of a living cell.

The study of the reversions of protoplasm, as producing symptoms like to those produced by vegetable productions, appears to me to open a grand law in pathology; and not only so, but also to harmonize that law with the method of our therapeutics. That quinine, etc., reduce the temperature, are parts of as simple and universal laws as are those of Kepler in celestial mechanics. These laws must be based on the ultimate energy and molecular motion. The cataclysm within protoplasm, which we call rigor, reveals in its varied yet allied products the orderly reversions, and allows the vito-chemical evolution of a vast variety of poisons out of the protoplasm, which are parallel, if not isomeric, to the higher productions of the vegetable kingdom. These new bodies disturb the molecular harmonies and exquisite equipoise of correlation, on which life at any time depends: here seems an approximative basis in pathology. What I have already said will illustrate the fact that rigor, and the subsequent pyrexia are in point of frequency of occurrence, breadth of their range, and variety in their results, the widest and most general phenomena we have as yet recognized in pathology.

6. *Chill or Rigor viewed Biologically and Chemically.*—I assume that we have reached that state of method by which the doctrines of cosmic evolution and continuity are seen as *à priori* truths. The evolution of cells in all their variety and exalted functions and energies, are as obedient to law, as determinate, as are the mechanical motions, or as are the physical energies—*e.g.*, the wondrous perfection of the sense organ for sight, is an absolute evolution, with and of, cosmic environment and that mode of energy, we call light. The so-far elements of protoplasm C H O N, etc., plus cosmic environment have differentiated into protoplasm; and in an absolute continuity, the protoplasm has differentiated into the highest sense organs. We shall thus recognize that a nerve energy or irritability must exist in the ultimate molecules of protoplasm; but the seeming ultimate molecules are not absolutely ultimate; they obey laws as much as do bodies in inorganic chemical action, and are but necessitous expressions of a yet more remote and pan-diffused energy.

Is it not *à priori* true that every action of life is in absolute continuity with all other chemical laws and Forms, and with the correlatable modes of energy? Is not the cell a microcosm? Dr. Edmund Montgomery says ("The Elementary Functions and the Primitive Organisation of Protoplasm," "St. Thomas's Hospital Reports," vol. ix., p. 96, new series): "Everywhere in the ectoderm the functionating substance is homogeneous, structureless; but, in spite of its ocular uniformity, the chemical differences of its various developmental stages is accurately proportionate to its functional difference at such stages. In fact, the chemical and the functional difference are two aspects of the same reality. The difference in the vital chemistry expresses itself as functual difference." Dr. E. Montgomery further says (*op. cit.*, p. 81): "The very complex organic molecule of protoplasm, at the height of its combination with complemental material is disintegrated by the dynamical powers of the environment." "This single, and very obvious occurrence, so rounded off in itself, and yet so variously related, constitutes the elementary wave of living existence, the primitive pulse of objective vitality." If we hold that life is the result of, and inseparably one series with, the infinite activities and cosmic correlations present in every molecule of protoplasm, it follows that we must seek the basis of disease in no less wide a field, always remembering that disease is in orderly continuity with health.

I have assumed that rigor involves changes in the vito-chemical processes of protoplasm—changes which are orderly and in continuity with normal rates, and in continuity with the fundamental energies of evolution—and which disturb the primitive irritability and capacity for sensation of protoplasm; or, in other words, disturb the harmonious chemical correlations of molecular motion. In the sketch I have made, we have seen not only the great area over which rigor extends, and its great frequency, but also we have seen how great is the number of so-called different diseases which are based on rigor. We seem to be nearing a basis in pathology, coincident with the great Forms of energy, molecular law and continuity. Rigor seems like a revealer of these laws; and not only so, but the method of our therapeutics is seen to be parallel in nature with the method of the evolution

of the protoplasmic albuminoid poisons. One can hardly doubt that alcohol has arrested the catabolism of protoplasm into poisons, after rigor and varied shocks had initiated the vito-chemical devolution. Nor can one doubt that the opium, black pepper, and assafœtida pill of Indian bazaars, has often arrested the full vito-chemical changes, which result in cholera, and which chill had set a-going.

In the study of rigor we can approach by three ways: the physiological, the pathological, and the therapeutical; but these three ways are ever in contact, and are in wider method, one. Until the chemist reveals the absolute laws or order of the evolution of the organic elements, of cells, of protoplasm; and, yet further, until the chemist reveals the laws and order of the reversion of albuminoids, it is allowable that we study by the observation of nature, and by analogy.

NOTES ON A CASE OF ABSCESS OF LIVER.

By F. F. Bond, M.D., Rastrick, Yorks.

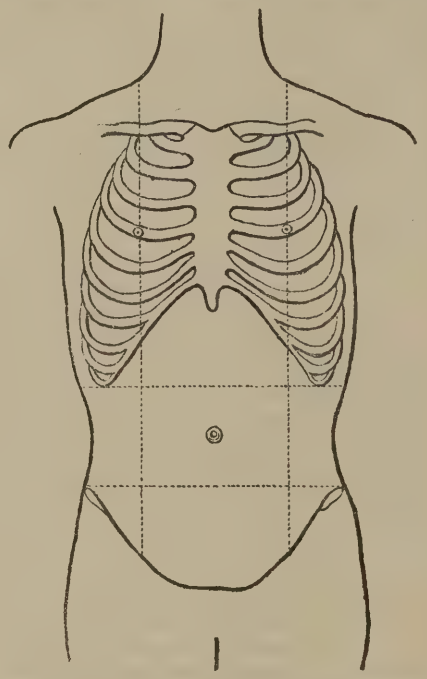
Ernest A——, æt. seven years, came under my care on June 13th, 1888, suffering from acute pain in lower part of chest on the right side, both anteriorly and posteriorly, dry cough, some slight rise in temperature. Physical signs were—increased dulness over lower four ribs; diminished resonance and fremitis, and dry friction murmur heard over same area.

Family History.—The lad, who had previously very good health, was born at Lucknow, the father being a soldier. Father is a strong vigorous man; has had ague. Mother has had repeated attacks of ague; they are otherwise quite healthy; no signs of syphilis.

The patient improved for a few days, then serious dyspeptic symptoms appeared, very frequent vomiting; these were very intractable, and improvement went on very slowly. He was ordered change, and was taken to Scotland on July 7th; here he was much better for four days; then he was attacked with severe pain in the same region as before, accompanied by a swelling just below the ribs in front. The doctor told the parents he was afraid of abscess of liver; the symptoms rapidly disappeared under treatment by blisters, and administration of pot. iod. and hydrarg. perchlor. The swelling had entirely disappeared by August 7th, when he was brought home.

On August 12th he again began to be worse. He presented the same physical signs as when I first saw him, with the addition of an egophony, the friction being only heard at upper part of dull area. The margin of the liver was felt just below the edge of the ribs in front; it was not particularly hard nor tender; appetite poor; bowels costive; stools offensive; no jaundice; urine heavily charged with urates and uric acid, but not albuminous. In addition he had for a few days ague-like attacks every evening, the morning temperature being normal. He was able to get up, and go about in the day-time. A doubtful diagnosis of pleurisy with effusion, causing secondary liver changes, was made. The parents being adverse to any puncture being made, I advised them to take the lad to a consultant, which they did on August 27th. His diagnosis was empyema (no exploration was made); local application of ung. iodi was recommended. After four days the attacks of fever ceased, and he was considerably better, physical signs also almost disappearing. The attacks of fever continued to come on about every nine or ten days, and would recur every day for a few days. The evening temperature would be 103—5; morning normal or subnormal. During these few days he would be very much worse; no appetite; stools pasty, dirty, and offensive; cough very dry and distressing; vomiting very troublesome; also the physical signs became intensified.

On September 17th, during one of these relapses, another blister was applied. The following day he was much better, and in a few days physical signs again almost disappearing. On Sept. 23rd he had another relapse for a few days, but it was not so severe as the present one; the blister was kept open. Oct. 3rd there was another relapse; this time the lower margin of liver became very hard; at one part there was a hard nodular swelling just above the margin in the right hypochondrium, the liver at this point extending over two inches below the ribs. There was



again increased dulness behind. The patient was now very weak and emaciated; bowels acting freely; stools very offensive, thin. The following day another blister was applied over the swelling. Again there was marked improvement, with almost total disappearance of physical signs.

On Oct. 18th he had another relapse, much the same as before. On Oct. 22nd Dr. Dolan was asked to see the case in consultation. The diagnosis was now clearly abscess of the liver; prognosis very grave. It was decided to try another blister, and if that did not relieve, to try aspiration. There was no improvement; the rounded swelling rapidly softened, by the end of the month fluctuation was very distinct, and the prominent swelling evidently adherent to abdominal wall.

On November 1st an aspiration was made, and about two ounces of thick yellow pus drawn off, not bile stained nor offensive. The day following, the side was strapped to give rather more rest. The boy now began to steadily improve. The posterior dulness gradually went down, and disappeared. On November 11th some pus had again collected, and burst through the site of the puncture; it continued to discharge for some time. Improve-

ment now progressed rapidly, cough and pain disappearing; edge of liver softened and receded.

On November 19th very severe abdominal pain came on along the course of the colon; this continued in spite of drugs till the 21st, when it suddenly disappeared. Shortly afterwards he parted with a large quantity of offensive fœces, pus, and blood per rectum. From this time he steadily and rapidly improved, and by Christmas the discharge of pus from the abscess and per rectum had quite ceased. He gained strength and weight rapidly, and was able to go away. I examined him again about the middle of January, when very little trace of the mischief was found. At present he is in very good health indeed.

Regarding the cause, nothing could be ascertained beyond the residence for a time in a malarial climate.

This case is interesting from the great difficulty of diagnosis at the beginning, the symptoms being identical with pleurisy; there was practically nothing to point to the liver as being the source of the mischief. It was not until the marked local swelling over the liver appeared that it became evident the liver was at fault. Again, the course of the case was peculiar, there being the periodical relapses, with intervals of apparent recovery, the temperature in the intervals becoming quite normal. It also seems remarkable to get complete recovery after the bursting of an abscess externally, with probably a second one bursting into the colon.

Treatment.—I found cocaine relieved the cough better than anything else. It was necessary to give pepsine all the time, or the food would return. The diet was almost entirely a milk one, milk and lithia water being freely drunk. During the feverish attacks quinine was given (three grains daily); otherwise the treatment was an expectant one.

THREE CASES OF TRANSFUSION.

By A. W. Mayo Robson, F.R.C.S.,

Hon. Surgeon Leeds General Infirmary; Hon. Consulting Surgeon Batley Hospital; and Lecturer on Practical Surgery at the Yorkshire College.

As the operation of transfusion is not very common, and as the methods usually described are somewhat complicated, and, therefore, not available at a moment's notice, the history of three cases in which a simple method answered perfectly, may, together with the mode of procedure, prove of sufficient interest to relate.

Case 1.—I was urgently summoned late one evening, by her medical attendant, to see Mrs. A——, aged thirty, and on arrival found that she had been delivered of a child, at the full term, about an hour previously; and that immediately after the extrusion of the after-birth, such profuse flooding had occurred, that the patient's life had been greatly endangered, for, despite the administration of ergot subcutaneously, the use of the hot uterine douche, and the exercise of continued pressure on the uterus, whenever the hand was taken from the abdomen, the cavity of the womb at once began to be distended with blood. When I saw the patient, she was almost pulseless, and, although the hæmorrhage had been arrested, she was only conscious when roused, relapsing into a dreamy state almost immediately. The foot of the bed had been raised previously. Frequent subcutaneous injections of ether were given, and an enema of beef-tea and brandy was administered. Owing to her critical condition, we thought it advisable to perform transfusion. As the patient seemed not unlikely to die, Mr. Jessop was asked to meet us, and with his concurrence, transfusion was performed as follows. The husband volunteered to give the blood, and whilst I was exposing the vein of the patient, and introducing the pipette of an Aveling's transfuser into the median basilic vein, Mr. Jessop bled the donor to eight ounces; the blood being received into a clean warm basin, in which it was well whipped with a silver fork for a few minutes, and then filtered through fine muslin into a saline solution, made by mixing a small teaspoonful of ordinary table salt with a good tumblerful of warm water. This mixture, after having been again passed through muslin, was injected gradually by means of the Aveling's transfuser, which had been previously filled with saline solution, in order to avoid the possibility of air being forced into the circulation. On the third syringeful being injected, the patient, who had been unconscious, even to not feeling the incision, opened her eyes, and in a dreamy manner said, "Oh! I begin to feel warm all over." About half a minute was allowed to elapse between the injection of each syringeful. After fourteen ounces had been injected, the pipette was withdrawn, and a catgut ligature, which had previously been passed round the vein, by means of an aneurism needle, was tightened and cut short: the wound having been irrigated with an antiseptic solution, the edges were drawn together by two catgut sutures, and a piece of antiseptic gauze was placed over and retained by a bandage. The patient was then perfectly conscious, had a fair colour in her lips, and expressed herself as being quite comfortable. She was quite unaware of any operation having been performed; and, until some days afterwards, when she asked what was the reason of the bandage remaining round her arm, she did not know by what means her life had been saved. Her recovery was uninterrupted, and she is now in perfect health.

Case 2.—About seven o'clock one evening, I received an urgent message from my brother, Mr. Herbert Robson, to go and see a patient of his with him, a Mrs. A——, aged thirty-seven, and to be prepared for transfusion. On arrival, the history given by my brother was, that he had been called to see his patient only an hour previously for what was supposed to be a miscarriage; that she had been flooding the whole of the day, and had only sent when she seemed to have lost an alarming quantity of blood. The uterus had then not emptied itself, and, as the patient was almost unconscious and pulseless, it was feared that any attempt to clear out the contents of the womb might end in fatal syncope. The uterus had been plugged, and a firm binder applied over the abdomen before my arrival; but despite ether injections and raising the bed, the patient showed no signs of rallying. Transfusion was at once proposed to the friends, and the daughter volunteered to give the blood, which was taken from the vena salvatella; four ounces being received into ten ounces of saline solution, made by putting a teaspoonful of ordinary salt into a tumblerful of warm water; this quantity of filtered blood and salt water, was introduced by means of an Aveling's transfuser, and at the end of the operation, which occupied about ten minutes, the pulse had returned, some colour had come into the lips, and the patient had regained consciousness. Recovery was uninterrupted, but slow. Two days afterwards, the patient had so far recovered, that my brother dilated the os, and ventured to empty the uterus of its contents. She is now perfectly well.

Case 3.—Mrs. R——, was admitted to the Leeds General

Infirmary, suffering from cancer of the uterus, which had been bleeding for some weeks, to such an extent as to completely blanch the patient. Colpo-hysterectomy was performed and rather free bleeding occurred, which, however, was arrested before the patient was put to bed. When seen about eleven o'clock at night, there had been some oozing from the vagina, not of blood, but of serous fluid, which, in her ex-sanguine condition, had rendered her pulseless; but the effect was no doubt partly due to shock. The blood being offered by the husband of the patient, transfusion was performed at once, by bleeding the donor to the extent of four ounces into eight ounces of a five per cent. solution of phosphate of soda, the filtered mixture being introduced by means of Aveling's transfuser. After the operation the patient rallied for a time, but subsequently succumbed; the life having been apparently prolonged by the transfusion for a few hours, and consciousness having been regained.

Although it has been known for some years that a solution of phosphate of soda prevents the coagulation of blood, to Dr. Braxton Hicks, "according to Mr. Bryant," belongs the credit of suggesting its use in transfusion. In the *British Medical Journal* for January 30th, 1886, Dr. John Duncan published an interesting paper on Transfusion, recommending one part of a five per cent. phosphate of soda solution to three of blood. In the same journal for April 10th, 1886, Mr. Lawson Tait published a paper advocating transfusion. He employed two ounces of phosphate of soda solution to six ounces of blood, using a glass nozzle with a tube and syringe, and occupying twenty minutes in the operation. Kronecker in the *Deuch. Med. Woch.* for August 7th, 1884, relates experiments on the transfusion of saline solution into dogs, which he bled until they had lost from half to two thirds of their blood, afterwards injecting 6% solution of chloride of sodium in distilled water, in amount equal to the blood withdrawn, recovery ensuing. He says as the result of these experiments, that a seven per cent. chloride of sodium solution is thoroughly efficient, without the use of freshly drawn blood. In the cases that have come under my notice, where a saline solution has been employed alone, without admixture with blood, the relief has been only temporary. I should prefer in all cases where I could obtain freshly drawn blood, to employ it mixed with the saline solution in greater or less quantity. As a chloride of sodium solution will retain the blood in a fluid condition for a considerable length of time, there need be no undue haste in completing the operation, which may be hastened or retarded according to the condition of the patient: being more likely that a patient whose depletion has been gradually going on for a length of time, will require the transfusion to be performed more slowly, than one who has been suddenly brought into a dangerous condition by complete and rapid loss of blood.

In the foregoing cases, no special antiseptic measures were adopted beyond strict cleanliness, excepting that the wound was washed out with an antiseptic solution before introducing the stitches, and that a pad of antiseptic gauze and wool were applied as dressings. If, in an emergency, an Aveling's transfuser were not at hand, I should extemporise a pipette from a fine glass tube, and attach to this a piece of india-rubber tubing, using as an injector an ordinary syringe, or even a small funnel. A bulb blown on the tube forming the pipette would be a safeguard against the entrance of air into the circulation.

SOME REMARKS ON ABDOMINAL AND RENAL SURGERY.[1]

By Thomas Savage, M.D., M.R.C.P. Lond., F.R.C.S. Eng.,

surgeon birmingham and midland hospital for women; honorary physician magdalen asylum; consulting obstetric physician, kidderminster infirmary and birmingham lying-in charity.

The question as to the best method of treating fibroid or myomatous tumours of the uterus has long been before the profession, and is, at the present time, again assuming an important prominence. Years ago, before the development of abdominal surgery commenced, cystoma of the ovary and myoma of the uterus were often confounded together. Then, when it was found practicable for the cystoma to be removed by operation, attention was directed to myomata; and, from a commencing mortality of something like 66 per cent., hysterectomy has gradually advanced until it may now be considered at about 10 per cent. But, in addition, a great deal has been learnt about the nature and life-history of these tumours. At first it was thought that a woman, between thirty and forty, with a fibroid, although bleeding profusely, would be sure to get right at the menopause; and hence, little beyond rest, ergot, and such like remedies were used. It was believed that death due to hæmorrhage in such cases was almost unheard of; and many patients were doomed to pass through a prolonged period which, at the best, amounted to several, sometimes many, years of the greatest discomfort, debility, and inaptitude for either work or pleasure. If the tumour did, unfortunately, increase after the menopause, there was then nothing to do but to face the inevitable result with as much calmness and fortitude as could be possessed. We have changed much of this. We now know that patients do die from the direct effects of the hæmorrhage, and, indirectly, from other causes—*e.g.*, peritonitis and its effects, septicæmia, and the effects of pressure. And we have many resources at our command which we did not formerly possess. We now know that non-malignant uterine growths have two characters.

First, the soft, simifluctuating œdematous tumours. This form assumes a more or less large globular mass, involving the whole of the uterus uniformly, and has for its stalk the more or less stretched-out lower portion of the body of the uterus. These tumours are usually not characterised by hæmorrhage, and may attain very large dimensions; and they are less amenable to treatment. If the case demands so serious interference hysterectomy is, as a rule, the best remedy, and probably will be more successful than in the other class—viz., the second, or hard nodular fibro-myoma, in which the masses of tumour are arranged in separate portions, and may appear as sub-peritoneal outgrowths, or as sub-mucous growths, or may widen out laterally, in between the layers of the broad ligaments. These tumours are usually those which are characterised by hæmorrhage; and, by their irregular outgrowths in various directions, giving rise to troublesome pressure symptoms.

For the treatment of uterine tumours I would say, first of all, that very many patients, the majority in fact, do not require any special or heroic measures; rest, time, ergot, and such means will tide them over the space that intervenes until the menopause arrives, when the tumour will in all probability not only cease to grow, but will shrivel and very likely disappear with the general involution of the sexual organs at this period of life. But for those cases which are

[1] An address read before the annual meeting of the Shropshire and Mid-Wales Branch of the British Medical Association, June 25, 1889.

growing actively, where pressure symptoms are getting troublesome, where there have been attacks of localised peritonitis, or where hæmorrhage has become a symptom of importance by beginning to tell on the patient's health and strength, so that she does not get over the last period before the next comes on, it is necessary to do something more than temporise and trust to rest and medicines. For such as these there are three principal means at our disposal, and each has its place in particular cases. I refer in the order of their applicability to, first, removal of the uterine appendages; second, electrolysis; and third, hysterectomy.

First: Removal of the appendages has given most striking results, especially in the case of bleeding fibroids. If it is done early in the case, I mean when the appendages can be easily reached—*i.e.*, before the tumour has grown anteriorly or laterally so as to bury the appendages down behind it, low in the pelvis, it is an easy operation, and its mortality now is almost *nil*. After it the hæmorrhage at once stops, and the tumour thenceforth ceases to grow or begins to shrivel and finally to disappear. This is the remedy I should advise being tried first; then, if it had been found impossible to remove the appendages in consequence of the peculiarity of the growth, I would advise the use of electrolysis, according to the method of Apostoli. I have found that the application to the interior of the uterus of the positive pole, which is acid and astringent, has given great relief in arresting the hæmorrhage, and, so far, doing good. It is a remedy that requires much patience both on the doctor's and on the patient's part.

In my opinion, electrolysis is not to be condemned, on the one hand, with a mere shrug, as all rubbish and useless; while, on the other hand, I think some of its more ardent advocates are a trifle too enthusiastic about its potentialities. The application, by puncture, of the negative pole, which is alkaline, destructive, and hæmorrhagic, is attended with much more risk, and has given rise, in my mind, to some feelings of alarm. A patient with a very large tumour came to me in January last for abdominal section, because it was growing so fast. I could not reach the appendages, and I could not do hysterectomy either, because the lateral outgrowths were too broad to enable me to form anything like a pedicle. I therefore made an exploratory operation, and I advised her, after she had recovered, to try electrolysis with negative puncture. She had three punctures made at intervals of about a week; they were of about 150 milliampéres intensity, and lasted five minutes at each sitting. She was perfectly well in health when she came for the fourth application, which took place in due course; and she agreed to come again in ten days. As she did not come, I, in a few week's time, made enquiries, and found from her medical attendant, who originally sent her to me, that she had died on the twelfth day after the fourth application. He could give me very few details, scarcely more than that he had attended her for only about four days, that her temperature went up to 106°, and that her other symptoms were incessant vomiting, abdominal pain, and consciousness almost up to death. I concluded that this was certainly a case of septic peritonitis, and, in all probability, caused by the negative puncture. An unfortunate result such as the above is enough to make one pause before repeating the experiment, or, at all events, to make one look more deeply into the cause of the catastrophe with a view to prevent a recurrence.

Besides its efficacy, the safety of electrolysis has been lauded as one of its chief merits. The future will testify if this be so. All my other patients, upon whom I have practised electrolysis, whether positive or negative, have expressed themselves as having been benefited by the treatment. This must of course be taken for what it is worth.

Thirdly: If hysterectomy is performed and is successful, nothing can, of course, be more satisfactory or more brilliant. But the immediate risks from the operation itself are so great and formidable, that we are inclined at the present time to consider it indicated only if the patient's life is in danger, and other means, viz., removal of the appendages and Electrolysis have failed or are inapplicable. Thomas Keith, who has done so much to perfect the details of the operation, and who has had such eminently good results, has of late become a convert to electrolysis, and, in his recent writings, speaks as if it would be almost criminal to do hysterectomy; while electrolysis, with time and patience, will be all-sufficient to bring about the desired ends. For myself, I think there is still a field for hysterectomy.

With all the advantages that have been gained by surgery, up to now, in the range of the abdominal cavity, having attacked the liver, the kidney, and the intestines, it might almost be thought that we had reached a state of finality, in so far as this portion of the body is concerned. But is this really so? Is there not almost as much as ever to seek out in the surgery of the intestines? The operation for excision of pyloric cancer, and the creation of a gastro-duodenostomy has a good many difficult details connected with it, even now, which enthusiastic operators must set themselves to overcome. The recently adapted anterior colotomy, which is to supersede the old lumbar operation, shows that we are yet awhile far from having reached the goal of perfection.

Then, take the wide field of intestinal obstruction. It is doubtless a very grand triumph, that many cases of obstruction can be permanently relieved, and a few cured, by the operation of enterotomy; that is, by opening the abdominal cavity in the middle line, seizing the first projecting portion of distended gut, opening it and stitching it to the abdominal wall. By this means the dangerous symptoms are relieved by giving vent to the imprisoned fœces, and, as a consequence, in a few cases, the continuity of the intestinal canal has been restored. But we cannot, by any stretch of the imagination, look upon this as a perfect operation. It is certainly a good one, and by far the best that we have attained to; but we must admit, I think, that something less empirical, and something more scientific, has to be aimed after.

There are many details connected with the plastic proceedings in cases of fœcal fistula and excision of portions of intestine which have to be worked out; and there are many questions of physiological interest in relation to the liver; *e.g.*, when gallstones are large in size, why are they, as a rule, either solitary or few in number? or, on the other hand, why, when very small, are they sometimes very numerous? as in a case I recently had where they numbered 300. Then, in a distended gall-bladder, why is the fluid generally colourless or nearly so when stones are present, and often deeply bile-coloured or almost black when stones are absent? The operation of cholecystotomy is, as a rule, easy of performance, and is certainly one of the safest in the whole range of abdominal surgery; but very often difficulty may arise in the extraction of a stone, firmly impacted in the cystic duct, taxing all the resources of ingenuity and available appliances. Does gallstone originally form in the gall-bladder itself or in the hepatic ducts? I have noticed, in most of my cases, that the patients were in the habit of

going many hours without food ; thus giving rise to the view that during the periods that digestion was not going on the bile had frequent occasion to collect inordinately, to become concentrated, and to deposit cholesterine. But probably other changes in the bile of a chemical nature have been more efficient as causes.

The teaching in my earlier days was that gallstones seldom or never proved fatal; but I have myself, as I think most other practitioners must have done, found that this is not so. Patients do die from abscess, perforation, and obstruction of the intestines from an impacted stone. I have seen two of the latter cases in my own practice within the last few years. I consider that cholecystotomy should be more frequently performed : and I would go so far as to say that the propriety of operating ought to be considered in every case where the characteristic symptoms of gallstone are or have been recently present with persistent or recurrent jaundice, even if no tumour is to be felt ; but *à fortiori* if a tumour can be detected. The treatment of hydatid tumours of the liver is another phase in the same direction. The facility and safety of hepatotomy are about on a par with those of cholecystotomy, and the relief also is equally great and permanent.

I have experienced quite a number of instances of patients having abdominal tumour which presented such characters of hardness, immobility, and pain, attended with considerable and rapid emaciation, that it was considered beforehand, and reasonably so too, that a malignant growth was present. An abdominal section has been advised and the exploratory operation has revealed that the tumour was not malignant at all, but one which could be successfully treated and cured. This has been especially noticeable in cases of hydatids and distended gall-bladder. Such experience leads one to urge an exploratory operation being made even in the most hopeless looking cases. In the event of the diagnosis of malignancy being a correct one, there is at all events the melancholy satisfaction of being able to speak quite positively as to the nature of the disease, and the patient's life has not been shortened a single day by the procedure.

Quite recently a lady, æt. fifty-two, came to me with Mr. T. H. Ravenhill. She was emaciating, sallow in complexion, and had been for some months suffering severe and increasing pains. Per vaginam there were felt two hard nodules, very tender; one was behind the uterus, and the other was on the left side, not quite fixed but giving the feel as if it could be very slightly moved upwards. The case looked unpromising, and, in spite of the very slight mobility of the tumour on the left side, as if it were malignant. An exploratory operation was advised, and assented to ; and it was found that there were two sausage-shaped cysts : the left one was quite free, and the right one had become fixed by adhesion in consequence of a twisted pedicle, firmly down behind the uterus. This patient was cured by the operation. Another case was the hydatid tumour operated upon yesterday, a specimen of which is now going round. This woman came as an out-patient, and was a miserable looking object, thin, sallow, and dejected ; and it was thought that the hard nodule in the abdomen, between the sternum and navel, was most likely a cancerous mass. An operation was advised and carried out, with the result that about one and half pints of hydatid mass were removed, thus giving the patient a good hope of permanent recovery.[1]

[1] This patient has entirely recovered and is perfectly well.—T. S.

The organ which hitherto has proved to be least amenable to successful treatment by operation is the spleen. My own experience has not been favourable; and I confess I do not see much likelihood of any marked improvement. I imagine it is chiefly due to the fact that operation is not indicated, and therefore not undertaken, until the spleen has attained an enormous magnitude, and when the operation will in consequence be a most formidable affair. In addition to this, by the time the tumour is very large the patient has become reduced to such a condition of spanœmia and leucocythœmia as to be in state of health highly unfavourable for a major operation. So far very few of the completed splenectomies which have been done have been successful.

The remarks which I have to make on renal surgery are based upon the experience of twenty operations which have been performed by me ; sixteen of which were for removal of the organ. Of nephroraphy I have no personal experience, and I am inclined to think that the good results anticipated for it have not been altogether realised. It has been recommended for some cases of movable and floating kidney. It is a safe and easy operation.

Nephrotomy is advised for calculus in its early stage, before pyelitis and pyonephrosis have developed to any considerable extent. In a case where a stone can be extracted, the general secreting structures of the kidney being healthy, the result is brilliant and eminently satisfactory. But when calculous pyelitis has, in the course of time, developed into a large pyonephrosis, the kidney having become one large abscess-bag with very little true secreting tissue left, it would seem that mere nephrotomy is not enough, and that nephrectomy is a better proceeding. In such a case, if nephrotomy be done, the usual result is that a sinus, discharging a large amount of pus, is formed, which shows no tendency to heal : and from which the patient may eventually succumb. This occurred in one of my cases.

In addition, if nephrectomy has to be performed afterwards it is rendered more difficulty by the exudation into, and consequent density of, the perirenal tissues, the result of inflammatory products. I would strongly advise against tapping a pyonephrosis as a preliminary operation before performing nephrectomy.

Exactly twenty years ago, Professor Simon of Heidelburg performed nephrectomy for the first time, so far as is recorded ; and since then the operation has been performed many times both in this country and abroad, so that now it has become recognised as a most justifiable and useful proceeding. If the other kidney is normal, perfect health can be enjoyed after it, and the loss of the diseased kidney appears to have no drawbacks. The conditions for which it is indicated may be said briefly to be calculus, hydronephrosis, and pyonephrosis, malignant growths, *e.g.*, sarcoma, carcinoma, and tubercle, injury and rupture, and, in some rare cases, floating and painful kidney, when the trouble is so great as to interfere with the duties of life.

The operation is generally regarded as attended with much danger to life; but it is much less now than formerly. By some the mortality has been assessed at 46 per cent., but this is greatly in excess of what obtains at the present day. K. Thornton has had twenty-five cases with five deaths, or 25 per cent. I have done sixteen nephrectomies with two deaths, or about 12 per cent. Of the two deaths, one occurred in my second operation ; and I feel sure, with my present experience, that it would now have been

a recovery. It was a bad case of pyonephrosis, and death followed rather as a consequence of the operation not being performed in what would now be recognised as the best method, than as connected with the patient's condition. The second case was a man, worn down to the last stage of exhaustion with pain and calculus. Considerable venous hæmorrhage occurred during the operation, and death followed its completion in a few hours from shock.

The kidney may be removed by both the lumbar and abdominal incision. Each has some advantages in particular cases. In the lumbar operation the incision is the same as for colotomy, between the last rib and the crest of the ilium, and may be parallel to the former. The cases most suitable for it are those in which the kidney is not very much enlarged, and where a sinus exists. Among the advantages of this method may be mentioned that no important structures are cut through, that the peritoneum is not opened, and that the lumbar region can be easily drained afterwards by means of gravity and posture. Recovery is usually very rapid. The drawbacks are that the kidney may, from its great depth, be difficult to reach.

There is sometimes, especially in fat subjects, little space between the rib and the iliac crest, and it is of course impossible to ascertain the state of the organ of the other side. In one of my cases, where the pyonephrosis, although emptied of a considerable amount of pus, was very large, it seemed at one time as if the operation could not be completed; and I at length had to get the tumour actually delivered by pressure upon it from the front through the abdominal walls. Sometimes when the perirenal tissues becomes very dense from inflammatory exudation it may be necessary, in order to separate the organ, to extract the kidney by subcapsular enucleation. The pedicle is tied with a double silk ligature and divided. I had in my last case considerable arterial hæmorrhage after dividing the pedicle, although it appeared firmly encircled both before and after division. I could only account for it by supposing that there was some aberrant branch of the renal artery outside the ligature, for it was eventually stopped by securing a small artery, a ligature being applied to one small bleeding point. I should not like to trust the pedicle to a catgut ligature. Indeed, silk appears to be the best material for ligatures that have to be left behind within the body; it may not be so rapidly, but it is as surely, absorbed as catgut or silkworm gut. In one instance, where the pedicle was very short and thick, I deemed it advisable to use a transfixion pin with a Kœberle's serre nœud on its proximal side.

If the abdominal incision is preferred it may be performed either in the middle line, or laterally on the outer side of the rectus muscle. This is called "Langenbuch's" incision, and is much preferred by K. Thornton and some others. I find that in my series of sixteen operations the incision was made as follows: Abdominal six, viz., in the middle line four, lateral two; lumbar ten. In cases of large renal growth, large pyo and hydro-nephrosis, it is preferable to remove the tumour by the abdominal method. I believe I am right in saying that the late Dr. Alfred Meadows was the first in this country to perform nephrectomy in a case of large hydronephrosis, which had been mistaken for an ovarian tumour. In a case kindly sent to me by a member of this branch, Dr. Packer, there was thought to be present a large ovarian tumour. It turned out to be a very large hydronephrosis. Had I been a little more careful in taking the patient's history before the operation, I might have made a more correct diagnosis. There is a fear that, in the face of the present marvellous success of abdominal surgery, accurate diagnosis may sometimes not receive the amount of attention which is its due.

Each of the abdominal operations has certain especial advantages. With the lateral incision, both the kidney and the pedicle are easily reached by a cut through the posterior or external layer of the mesocolon, which has few vessels of importance likely to give trouble. On the other hand, as compared with the lumbar operation, there is the opening of the peritoneum, and the possible escape of blood, pus, or the poisonous contents of the tumour. With the central incision, it is easier to remove a large tumour, and to get to the pedicle to apply to the ligature; and an opportunity is given to ascertain the state of the other kidney. On the other hand the incision through the mesocolon is through its anterior layer, in which large vessels may be wounded. The possibility of a subsequent hernial protrusion may be noticed. Some operators have made much of securing the ureter separately, and leaving it outside, in the angle of the wound, to prevent the possibility of septic mischief arising from its presence in the pedicle within the abdominal cavity. I have not treated it thus, and have seen no ill result. Sir Spencer Wells has advised the making of a counter puncture through the loin for purposes of drainage, and then suturing the torn peritoneum, thus making the stages, subsequent to the operation, practically extra-peritoneal.

Although the immediate danger to life from the operation itself of nephrectomy for a floating kidney is very slight indeed by the lumbar method, the question must naturally arise, how far it may be justifiable to recommend so serious a procedure as the removal of a kidney for a condition which is not endangering life. A distinction has been made between "movable" kidney and "floating" kidney; and I take it that in the former the symptoms are, in addition to the palpable organ, general discomfort and occasional pain, which can be relieved, and sometimes cured, in course of time, by rest and the application of a pad, or other suitable support. Most of the cases of floating kidney can be relieved in the same manner; but I believe there is a rare case, met with every now and then, where the ordinary symptoms of dragging, sickening pains in the loins, nausea, occasional vomiting, diarrhœa or constipation, frequent micturition, depression of spirits, and consequent general debility, are much aggravated, and the pain is either constant or comes on in paroxysms of such severity as to completely unfit the patient for the duties or enjoyments of life; and in such as these I believe the operation is indicated. My last nephrectomy was such a case. It occurred in the person of a young lady, æt. twenty-two years, a governess. For some two years she had had constant pain, which neither rest nor support relieved, and for the last six months she had, in addition, almost daily paroxysms of pain, which at length compelled her to give up work. The operation and its effects were pointed out to her and her friends, and she elected to have it done, with its risks, etc. She preferred to go through life with one kidney, rather than have two and continue as she was. From the moment of the operation she felt no pain whatever. I was associated in this case with Dr. Marriott, of Leamington, and Dr. Haig, of Coventry.

It is not easy in every case to say to what cause the pain is due. It has been ascribed to the stretching, by the elongated mesonephron, of the renal and solar plexuses; and also, I

think by Dr. Alexander Simpson, to a kink in the ureter. I believe that the presence of a movable kidney is much more frequent than we are apt generally to suppose. It has been said that, if we take a large number of patients, one in every 250 will be found to be so afflicted. What influence child-bearing and tight-lacing, the two most frequently alleged causes, have in producing the condition we are not at present in a position to say. For some cases of intractable nephralgia, Dr. Tiffany, of Baltimore, has recently recommended free division of the capsule of the kidney; but I am not acquainted with what results this novel practice has been attended.

As a result of removal of one kidney, there is naturally to be expected a condition of hyperæmia of the other organ; and this is not unfrequently manifested by the presence of some degree of hematuria after the operation, and sometimes of some albumen in the urine, both of which may persist for some weeks. I have thought it wise in such cases to restrict the amount of nitrogenous food, in the shape of meat, which should be taken during the continuance of this condition of things.

ON THE TREATMENT OF FRACTURES OF THE PATELLA.

By Hugh Owen Thomas, Liverpool.

A reader of our various medical periodicals issued during the last ten years must have noticed the great interest surgeons have taken in the treatment of fractures of the patella. They will have further noticed the frequency with which those who have discussed the subject recommend operative interference, and the dissatisfaction expressed in regard to the efficacy of past treatment. In October, 1882, I contributed an article, which was published in the *Medical Press and Circular* of that date; it was a sketch of a new departure, well tested, in the treatment of fractures of the patella.

Although seven years have since passed, there has not been published any evidence confirmatory of the value of my advice. Seven years of added experience in addition to that of surgical acquaintances and neighbours, is in favour of the teaching which I laid down in 1882. If the question was put to me: "Of all the important fractures presented to the surgeon for treatment, which of them is the easiest to restore and repair, and least cripples the patient during treatment?" my answer would be: "Fracture of the patella," and that for the following reasons: If the injury be a simple fracture, the result of muscular action, the patient may return to his work as soon as the surgeon has applied his skill. If it be a simple fracture from direct violence, with much intra-articular effusion, then the sufferer is ready to go about as soon as the effusion has been absorbed. If it be a compound fracture, the case, though still easily restored and repaired, by reason of the cutaneous complication, requires that the patient should rest until the wound has healed; then, whether that period be short or long, the patient leaves bed, and resumes locomotion. This prognosis is made upon the supposition that the surgeon in control of the case practises the indirect method of fixing the knee-joint exactly similar to the plan introduced by me to the notice of surgeons, as proper for the treatment of knee-joint inflammation, a rough sketch of which is shown in the accompanying woodcut. This I find to be a much superior plan of carrying out the indirect method than the one I published in 1882.

During the many opportunities I have had of treating these accidents I have gradually attained the conviction that neither position nor nicety of adaptation during treatment is in any way essential to a good result. What we want is a method of treatment which renders nearly certain a recovery of the knee-joint free from defect in function.

Experience has clearly taught me that there are four points hitherto overlooked, which, if attended to, give success. The first is time; the second, non-interference with the circulation around the patella; the third, that no strain in the direction of flexion be allowed during treatment; and lastly, that the temporary stiffness produced by the treatment should be allowed to pass away spontaneously. In regard to time, I now know that it is necessary to postpone, uninterruptedly, genu-flexion until a period of five or six months has elapsed. This is the time which observation has indicated to me as the safe date at which to suspend control.

The months of surgical control may be considered as divided into three periods: the first representing the removal of effused fluid; the second during which union is progressing; the third being spent in the consolidation of the uniting medium when it becomes free from inflammation—*i.e.*, healthy. At the end of this third period the connection between the previously separated segments of patella—whether bony or ligamentous—will withstand, if sound, any habitual strain, and whether the two segments have been in close opposition or a perceptible distance apart, is merely important from the point of view of appearance. As an example of the efficiency of the indirect method of treating these fractures, I place before the reader a few short notes of cases:

Two months ago, on a Sunday evening, I received a message to visit a lady with a fractured patella, at the north end of the town. My reply to the messenger was that the lady should be brought to my surgery. In two hours she arrived in a cab, with great commotion. Several friends assisted the patient into my surgery, where I at once fitted her with a bed knee-splint, then screwed a tube heel-plate to the shoe, and as my blacksmith was not at home, with the aid of my steel vulcan fitter, I cut the bed splint into a calliper to fit into the heel-plate of the boot, completed the fixation in accordance with the indirect method—the whole procedure occupied about half an hour; after which the patient walked out of the house into the cab, and went home. Passing her residence some days afterwards I visited my patient, and found her in the kitchen attending to her household duties. It was fracture produced by muscular action, and at this date, two months after the accident, the contact of the fragments is perfect, but treatment has not yet been suspended.

Three months ago, on another Sunday evening, I was interviewed by a messenger, who requested me to go to Hill-street and attend to a fractured knee-cap. I instructed him to bring the patient down to my surgery the next day. He was assisted out of the vehicle in which he was brought, but after a delay in my surgery of half an hour, and the application of the indirect method of fixation, he walked home, with the assistance of a walking stick. This was a case of fracture from muscular action.

About nine months ago, late in the evening after my hours of consultation, there drove to my door, from Runcorn, a covered waggonette. In a few minutes afterwards a patient was carried into my surgery, by several men, whom I found to be suffering from a fractured patella, caused by muscular action. Unaided, except by the Vulcan fitter, the fracture was fixed by the indirect method, and in half-an-hour the patient walked out into the waggonette and, with his companions, drove merrily away, and returned in a fortnight for my inspection. Afterwards he came every three or four weeks during a period of five months, at the end of which time the treatment was suspended, and the restoration and repair were found perfect.

Two years ago I proceeded to the Principality to visit a gentleman who had been confined to his room for two or three weeks suffering from a fractured patella. The cause has passed out of my recollection. Assisted by Dr. Owen, of Beaumaris, we fixed the fracture by the indirect method, and at the termination of the operation the surgeon, patient, and myself went downstairs and enjoyed dinner. From that moment until his recovery he was able to resume his duties, those of commander and navigator of a large steam yacht. The repair in this instance was perfect.

Another illustration: Some two years ago, in consultation with two other surgeons, we examined a gentleman residing about twelve miles out of this city, who suffered from fracture of the patella, the result of direct violence. The injury was followed by extreme effusion within the joint, and the surgeons had very wisely, considering the extreme degree of capsular distension, confined the patient to his bed. At the time we examined him the effusion had been nearly all absorbed. We agreed that the next day the fracture should be treated by the indirect method of fixation. After we had carried out this agreement perfect repair followed in due time.

Still more clinical evidence: I assisted Dr. Evans, of Waterloo, to fix, by the indirect method, a fractured patella. A fortnight had elapsed between my visit and the accident. Three days after our consultation the patient did shore duty as assistant steward at the docks. The cause of the accident was muscular action. The result of the treatment was perfect restoration. Nine months after recovery the same man drove up to my house in a cab, having injured his knee by slipping in the street. On examination I found that he had re-fractured the patella. With Dr. Evans' concurrence he was re-fixed according to the indirect method. Again, after being fitted with the appliances, he walked away, and revisited me in about a fortnight's time. After examination I informed him that the knee was progressing favourably; he replied that he thought so, and added that he believed that he could manage the case himself, and would not call again, which resolution he adhered to, as we did not see him again. This is the only drawback I know that is attached to this method.

Further illustration: Accompanied by a medical friend, I drove eight miles out of town to visit his patient, who suffered from a fractured patella. On being introduced to the patient, I recognised a gentleman whom I had treated for a similar accident fourteen years previously. He was treated on that occasion according to the then standard method. On the present occasion an innovation was practised; the fracture was fixed by the "indirect method." After we had finished the operation the patient inquired, "How long do you think I shall be kept away from business?" My reply was that he might leave his residence next day and superintend his business. He appeared surprised, and remarked, "that will never do, I am insured against accidents." I then advised him to be guided by his usual medical adviser. The case resulted in perfect restoration and repair. Five years ago a physician, in this city, requested me to visit one of his patients residing in Upper Parliament-street. On my arrival at the house I found an elderly gentleman, seventy years of age; he was in bed with a fractured patella. He was at once fixed up by the "indirect method," and the following day got out of bed, and continued to do so daily until he was perfectly restored and repaired.

Last year, a message was delivered to me from Daulby Street, requesting me to visit a gentleman who had broken his knee cap. Accompanied by Dr. Lewis, of Kansas, U.S.A., I visited the sufferer, whom we found in bed incapacitated by a fracture of the patella, from muscular action. Assisted by Dr. Lewis, and employing the "vulcan fitter," we converted a knee bed-splint into a calliper, then applied a tube heel plate, and fixed the fracture by the "indirect" method, and got the patient out of bed. He remained in the house a week, but being an elderly person, over sixty years of age, he seemed to be short of reliance upon his fixture; nevertheless, at the end of a week, he went daily to business, which he conducted upon the other side of the river. The restoration and repair were perfect. I shall only trouble the reader with one more example. Three years ago, accompanied by a surgeon from Boston, U.S.A., I went to show him a case of fractured patella, which I had fixed by the "indirect" method two days previously. On arriving at the house, we were informed (it was late in the evening) that the patient had not yet returned from his work, which was that of foreman engine fitter. The history of the case is as follows: two years previously I had attended him with fracture of the left patella, and treated it by the "indirect" method, with the result of perfect restoration and repair. The second accident was a fracture of the right patella; both injuries resulted equally satisfactory. During the first injury, he remained in the house a week; during the second, at my urgent request, he resumed his duties the day after the accident. Such was and is my confidence in the "indirect" method of treating fractures of the patella. The question might reasonably be asked: "What degree of approximation of fragments was apparent after recovery from this injury when treated by the "indirect" method? The correct answer to such a question is this. "A perceptible space is a very exceptional result." During the treatment, especially those cases resulting from direct violence with great tensile effusion within the joint, the surgeon should then enjoin a week or a fortnight's rest in bed, but at the earliest possible moment the patient should be ordered out of bed and employ his limb in locomotion, so as to produce a tense, brawny œdema external to the joint, the formation of which the "indirect" method generally favours, and upon which œdema the surgeon has to depend *entirely* for maintaining *perfect* opposition of the patellar fragments. The surgeon may occasionally be called upon to manage fractures of the patella unavoidably neglected, with much separation of fragments and defective power arising therefrom. This phase of the question has already been discussed by me in Contribution VI., "The Principles of the Treatment of Fractures and Dislocations," and I purpose re-opening it in a subsequent number of this journal.

A NOTE ON THE TREATMENT OF CLUB-HAND.

By Robert Jones,
HONORARY SURGEON TO THE LIVERPOOL STANLEY HOSPITAL.

The condition known as club-hand has proved a source of much practical difficulty to many orthopœdic surgeons, some of whom do not hesitate to recommend amputation in those cases which they consider sufficiently severe to resist all treatment. Most, if not all, regard tenotomy as very frequently indicated, and very often render this operation so complete as to sever nearly all the flexors of the wrist. The severity of the latter procedure becomes more evident when we recollect the intimate situation of the wrist tendons, and the risk, so often occurring after operation, of adhesive inflammation and consequent interference with the proper play of the fingers. My experience has been so free from anxiety in the treatment of this lesion, that some good may take place by briefly stating the principles, simple as they are, which should govern our manipulations.

I have seen more cases where the flexor muscles are shortened, and the palmar surface of the hand is flexed on the forearm, and I will first allude to the treatment of such. The sooner treatment is commenced the easier becomes the surgeon's task, and I have treated infants only seven days old. The hands should be held by the surgeon, and gently stretched every morning for some days, the severity of the stretching to be gradually intensified until extension can be made by the hand without any great force. I next place in each of the infant's hands a small wooden bar, allowing the fingers to curl over it—grasp it in fact. Bandage is then used to hold the bar in position, and should be re-adjusted every one or two days according to the severity of the grip. In a fortnight or three weeks, providing good progress is being made, I turn my attention to the wrist, and having removed the bars from the hand, place the forearm in a splint so constructed as to gradually straighten the hand and wrist. This is best attained by employing a zinc or sheet-iron splint which the surgeon can from time to time bend. Flexor massage may now be employed either by means of thumb pressure along the separate muscles, by friction, or by flaggelation. The hands should next be placed in full extension, and the splints modified, so as to admit of maintaining them in the extended position. This is practically the last phase of treatment, and the hands should be maintained in this position until all tendency to contraction has ceased. This may take a great many weeks, but in my experience always occurs. By this method the lengthened extensor muscles become shortened and the flexors stretched, and the muscular equilibrium become more directly restored than any other treatment will admit of. In the present brief note it is not my attention to give cases, but rather to point in a general way to a safe, easy, and efficient mode of dealing with a condition which is supposed to be surrounded with difficulties.

Special Articles.

HEALTH RESORTS OF THE WORLD.

XXXIV.—WEYMOUTH.

By W. Armstrong Willis, Monmouth.

The very name Weymouth, to most readers, has an aroma of old world wholesomeness and memory in it. It seems just the place where the eighteenth century feeling its end at hand, and grown weary of the routs, concerts, bell-ringing, assemblies, and general modishness of Bath, seeks a fresher and more austere spot, there to renew its youth and gather strength from its breezes, and so prepare for the full expansion of the nineteenth century and Brighton. All reminds one of George III, and while the eye rests with pleased amusement on the would-be classic frieze of an old mansion (apparently representing festoons of white towels on a back-ground of pale jasper-blue), the mind is busy at work repeopling the place. Chief of the ghosts of the past are the Farmer King and his little, homely-looking Queen; following, come that wonderful family of handsome sons and daughters, said to have been, when together, the best looking family in Europe. More than all of them does one see the Princess Amelia, the youngest of the six Royal daughters, the favourite of the King, and who died at the early age of twenty-seven of consumption. Indeed it was from Weymouth that she was brought home in 1810 to Windsor to die, and it was her death which plunged George III. into his final attack of madness. There is nothing more pathetic in English History than the grief of this poor father for the loss of his charming and devoted daughter. Her eldest sister, the Princess Royal, afterwards the Queen of Wurtemburg, thus wrote of her: "Poor dear Amelia has had a long and painful illness. She is a sweet, amiable, pious, good little soul; patient beyond description, and has the greatest resolution and fortitude. She is a perfect example. I never saw so good a disposition; so thoughtful and considerate to those about her; so afraid to fatigue them by sitting up with her. I never saw anybody more careful to disguise her sufferings for fear of vexing others; and truly it is most vexing to see her in such a state of health." How sweet a character this unaffected letter depicts, and how hard to realise that the Princess Amelia was wholesister to the Regent. However, it is with the present and not the past Weymouth that we are concerned; it is well to remark that no place lends itself less easily to the daubs of the "word painter" (one of the worst of the tribe of modern bores). Some have asserted that the great Bay at Weymouth is like the Bay of Naples. This comparison is as truthful as that of the Wye to the Rhine, or of Saint Paul's to Saint Peter's. There exists the same likeness between Weymouth and Naples as between a portly and respectable town counsellor of the one place, and the most sun burnt of the red-capped lounging Lazzaroni of the other. In fact nothing more essentially English than Weymouth can be imagined. The great sweep round its bay, of solidly built, plain lofty houses; the good masonry and fine roads, the complete absence of all noisy gaiety; in fact the general seriousness of Weymouth all protest loudly against linking it, for a moment even, in association with the garish southern brightness of Naples. It is unnecessary to point out how silly are these so-called comparisons of widely differing places. Sad though it may be to miss the light, the warmth, and the colour of Italy, yet there are many among us who find compensations, such as the absence of vermin, beggars, fevers, and general shamelessness, all of which, alas! are too well known in the Bay of Naples the Beautiful. Weymouth is most pleasantly clean and bright, and shines with that brightness which comes of the cleanly habits and good sanitation of our self-respecting Anglo-Saxon race. Lodgings here are abundant, cheap, and close to the sea; the sea itself is magnificent for bathing, and ancient mariners abound who take one out for a sail or a fishing expedition, and out of their vast store-house of memory or imagination can pour forth strange stories of old smuggling days. To

one anxious for sea-side change and liking all the solid comfort of a good town, yet perhaps unwilling or unable to afford a fashionable, crowded health-resort, this seems the very place. There exist now so few places occupying a position half-way between the noisy crowded rising or risen watering-place, where lodgings are dear, houses too often new and ill-drained, and everything sacrificed to appearances on the one hand, or some rough half civilized place on the other, which is simply cheap because one has to deprive oneself of most of the things that make life bearable. Again, if tired of Weymouth, there are few neighbourhoods more interesting or more abounding in note-worthy spots. First, of course, comes the Isle of Portland. Without entering into its characteristic geological formation, which well repays observation, it may be mentioned that Portland contains two most striking objects; one is natural, the other the works of mens' hands, and most unwilling hands too. These are the immense breakwater constructed by convict labour, and the Pebble Ridge called Chesil Bank, which in truth makes the island a peninsula and connects it with the Abbotsbury coast. This beach is two or three miles long; its usual height about forty feet; its thickness about 200 yards; at the Portland end it is composed of pebbles, worn smooth by the action of the waves and weighing several pounds. These pebbles imperceptibly diminish in size till at Abbotsbury they are small gravel; and at Burton Bradstock finally small sand. Chesil Bank is one of the most imposing, bleak, barren, natural ramparts that the mind can conceive, and a walk of a mile along its grey crest would be a fresh torture worthy of the Inferno. Standing on this beach looking up at the island one feels fascinated by the utter dreariness of the scene. On a day with a grey sky, the great piles of grey cliffs, the strangely bare-looking grey houses creeping in one steep street up the sad-coloured hill all present a picture in mourning tones of grey which might inspire Mr. Whistler for a fresh "harmony," and form no unfitting setting for the dreary lives of the convicts. But there is the more hopeful and cheering reflection that genius has out of the dull rocks of this Isle of Crime created many a noble pile, and the stones of Saint Paul's could they but cry out might tell us they had come hence.

The breakwater was begun in 1847, and consists of two great arms. One of them is connected with the mainland and runs out to sea about 1,800 feet; then an opening is left for ships, 400 feet wide; and beyond this the great main breakwater stretches 6,000 feet in length. As all these great works are of Portland stone, it may in a manner be said that the island has been partially destroyed for its own protection. In nooks and crannies rare plants may be found, and the Portland spurge is not extinct. Leland, in in the course of his Itinerary over all England in the time of Henry VIII., gives a quaint account of the place and its then inhabitants, which may be quoted with a few slight omissions without apology. "Portland (he says) has been of auncient tyme by all likelihood environid with the Se, and yet berith the name of an isle. It is eminent and hilly ground on the shore of it, and a great plain in the middle of it. The cumpace of it is counted to be about a seven miles; but if a man should cumpace it by the very rootes and depe shore would mount to a ten miles. The soil is somewhat stony, and the shore very rokky. The isle is fruitful of corn and gresse, and hath plenty of sheepe. Ther be at this present tyme about an eighty housis in the isle. Ther hath been almost as many mo, as it apperith by the ruines. Ther is but one streat of housis in the isle; the residew be sparkelid. There is a castelet or pile not far from streate, and is set on a high rokke, hard by the se cliffes, a little above the est end of the cherch. The paroche cherch (that is but one at this tyme in the Isle) is long and somewhat low, buildid in the hangging roots of an hill by the shore. This cherch and paroche is about a mile dim: to go the next way to it from the Kinge's new castelle in the isle, and to go to it by cumpace of the shore, it is three miles or more. Ther be very few or utterly no trees in the isle saving the elmes about the cherch. Ther wold grow more if they were there plantid; yet is the isle very bleke. The people bring wood thither out of Wight and other places. They brenne also cowe-dung dryed with the hete of the sun. The people of the isle live most now by tillage, and sumwhat faulle from fishing. The people be good there in slynnging of stonys, and use it for defence of the Isle. They be politique enough in selling their commodites, and sumwhat avaritiose. The isle is the Kinges; and much of the land there is holden by hym." The new castle which Leland alludes to still stands near the landing place of the Weymouth steamers, and is now used as a modern residence. In every other respect Leland's Portland is utterly a thing of the past. From Weymouth excursions can cheaply and easily be made to Dorset, with its Roman and pre-historic remains and new County Museum; to Corfe Castle and to Wimborne with its splendid minster. Christ Church, with its beautiful priory sleeping peacefully in meadows worthy of Arcadia, on the banks of the widening Avon, is also easily accessible, and contains a monument to Shelley, whose ashes were, however, long ago gathered from the funeral pyre in the Gulf of Spezzia, and placed in the Protestant Burying Ground at Rome. These old southern towns are full of interest. They often contain quaint gems of old street architecture. For instance, Poole on the border shores of Hampshire and Dorset, though it contains no building of great historic interest, has streets and corners and alleys full of old houses of the most varied types; from the fine red-brick Queen Anne mansion with its ample perron and great coat of arms blazoned in Chippendale style over the middle of the frontage, back to every kind of quaint gable, bow window, and over-hanging eaves.

Another easy excursion is to Bournemouth and its pine trees and fine sands; its winter and spring crop of exclusive invalids, and its summer crop of rudely healthy visitors, are a widely differing but noticeable feature. In the winter one sees worthy bronchitic Bishops, Deans, and Dignities; in the summer tribes of jolly-looking children and their slaves (parents and nursemaids). With Weymouth as head-quarters if the sea be tempting, weather fair and winds favouring, what can be pleasanter than to steam off and see the Channel Islands? Even if no stay be made there, the beautiful scenery of the coasts of the islands, the deep blue and purple of the sea, and the fruits and flowers of Jersey will more than repay the slight discomfort of a steamship, and the trip will be a cheap one. In spite of the thousands of tourists, both English and French, who now through the summer and early autumn months flock to Jersey and Guernsey, many a quiet lovely spot may be discovered, where a pleasant few days may be passed, and nowhere so close to the shores of England do you get a sea of such colours as off Jersey, often approaching those of the Adriatic.

But if the Channel Islands are lovely, the scenery, too,

of Dorsetshire is attractive owing to its constant contrast. There are regions in high cultivation often surrounded by the wildest and most barren heath and moorland. You may stand as on the edge of the great ancient British Agricultural Camp of Dudsbury, between Wimborne and Bournemouth; at your feet the Stour with its white and yellow water-lilies, gliding placidly between reed and sedge-laden banks through the richest and most fertile of meadows. A rich haze hangs over the distance even on the finest day, and mellows and idealizes everything, till the many-arched bridge of Longham seems of classic construction, and you have a picture of Claude's on which to feast your eyes. You turn your back on the Stour, and there for twenty miles and more you have the wildest and most dreary moor scenery. A great barren heath, with a few scattered mounds in the foreground, the burial place of some old heroes of the Durotriges probably. Here the cotton rush, the yellow asphodel and bog myrtle flourish among gorse and heather, and the great heath melts away into the blue distances of the New Forest. It is hard to realise that close to so many towns there can be this great desolate stretch of moor; but the contrast it affords to its fertile surroundings of tranquil pastoral landscape is very typical of one aspect of Dorset scenery which mingles the "blasted heath" of Macbeth with the Vale of Tempe.

These, I think, are no mean catalogue of attractions in and around Weymouth. Of course there are many more, but they would swell the bulk of this article unduly, and the intention was only to dwell on more salient points. One can truly add that for sea, air, general healthiness, and interest of surroundings, one of the deservedly best health resorts in England is Weymouth.

A VISIT TO THE WORKS OF THE SANITAS COMPANY.

By a Quondam Medical Editor.

Perhaps no question concerns the world at large more deeply than the causes of the healthfulness of one locality, and the dangerous character of another. I do not think that it is any explanation to be told that the latter may be or is due to malaria. That seems to amount to nothing more than this—accounting for disease by a fanciful hypothesis. No doubt it is very convenient to talk of malaria, but what do we know of it—its causes and remedies. I may be showing my crass ignorance of the whole subject when I say that malaria seems to me a convenient term to describe or convey unhealthiness. Once in the Southern States of America a physician of repute explained to me that malaria was only another name for a blue fog that was confined to certain localities, and generally rose to a height of four feet or so. This was fresh to me, and now I never think of malaria without picturing a blue fog to myself.

Whatever may be the explanation of the dangers surrounding residence in certain districts, I will leave to others; but the health-giving properties of the air near pine forests have long been beyond question. Daily increasing use is being made of their invigorating and restorative influences on persons liable to lung and throat affections. In America, summer parties are often, it is said, formed to camp out in the pine woods, while the pine groves of Weybridge, Bournemouth, and Arcachon are familiar instances, closer at hand, of the efficacy of this class of vegetation in promoting health. The recklessness—I can use no other term—with which the pines are being mown down at Bournemouth, is much to be regretted, and must before long diminish the value of a visit. The eucalyptus globulus, or blue gum of Australia, is another and more recently discovered tree having much the same properties, and its salubrious influence in softening the air is now generally admitted. This tree has of late built up a great reputation for making localities habitable, which were previously seats of malaria, or at any rate of disease. In Algeria and in Portugal, too, there are valleys which were a few years ago most unhealthy, but which have now become healthy by planting this tree in them; while another still more striking example of its fever-correcting properties is found in the re-occupation of a deserted cluster of monastic buildings, three miles from Rome, in a most desolate part of the Campagna. This was effected by some Trappists, who planted, several years ago, eucalyptus groves. For centuries the fever-stricken monks had vainly battled against malaria, and at the close of the last century the monastery had to be abandoned. Although the remarkable efficacy of the eucalyptus globulus and the pine in preventing disease and preserving health has been thoroughly recognised, the connection between cause and effect has only recently been clearly established. The clue to the connection has now been ascertained beyond all cavil, and as a result of the discovery we have had an important addition to the long list of antiseptics and disinfectants under the title of "Sanitas." This discovery was not the result of direct inquiry, although the fruit of a purely scientific investigation of a cognate character, in which Mr. C. T. Kingzett, the distinguished chemist, was for years engaged. Engrossed in an exhaustive enquiry into the nature and action of ozone, which till recently was supposed, and it seems erroneously, to be nature's great purifying agent, Mr. Kingzett tried to satisfy himself that its presence in the atmosphere was due, as was generally supposed, to a process of slow oxidation of the essential oils or perfumes which are given out by strongly odoriferous plants when freely exposed to the air. But no satisfactory proof of the production of this active principle was forthcoming, and Mr. Kingzett ultimately concluded that these plants did not evolve ozone, but peroxide of hydrogen. Working at this hypothesis, he went on to establish its correctness by a laborious series of experiments, and at last completely succeeded. He submitted a large number of oils, and other likely bodies to the action, under various conditions, of atmospheric air, and found that they all rapidly absorbed oxygen, the gas entering into combination with them and forming new bodies. This property of absorption was, he found, possessed in far higher degree by turpentine than by any other of the many substances tested. He also ascertained that when turpentine was exposed to a current of air in the presence of water, at average summer heat, oxygen was absorbed, and the oil was oxidized, a compound being formed which was unstable in the presence of water, and which split up into peroxide of hydrogen, a peculiar soluble camphor, and camphoric acid. The conclusion he came to was that the hygienic peculiarity common to pine and eucalyptus groves was the evolution of these three substances, and the cause of their production was atmospheric oxidation of the naturally secreted oils which are volatilised from them. This natural process of oxidation takes place in any essential oil containing the chemical body known as "terpene"—the principle of turpentine; this curious substance is common to all these odoriferous plants, but is most powerful in the pine-produced turpentine of commerce. Having made this brillant discovery, Mr. Kingzett's next aim was to

imitate in the laboratory the results produced on a magnificent scale in nature. He had shown that the health-giving atmosphere of the pine wood or the eucalyptus grove was due to peroxide of hydrogen and to the camphoraceous substances produced by the resinous oils secreted by those trees; he had proved that these invaluable natural purifiers could be obtained from common turpentine, and he had now to manufacture them in such form and on such a scale as would make them useful to the general community as antiseptics and disinfectants.

Here I must mention that Mr. Kingzett does not claim to be the discoverer of the disinfecting properties of peroxide of hydrogen, for they have long been known, although the preparation of this powerful body had hitherto been too expensive to admit of its being used for ordinary sanitary purposes. What Mr. Kingzet takes credit for, and I believe justly, is the identification of its purifying power with part of that of the pine and the eucalyptus, and the perfecting of a method of manufacture which enables the artificial substance, in association with other equally valuable bodies, to take its place as a commercial article. In bringing his method into practice, Mr. Kingzett associated himself with Mr. M. Zingler, and these gentlemen carried on a series of manufacturing experiments and devised plant, which they perfected slowly and laboriously, until it was finally brought to the successful point at which I found it a few weeks ago, when I saw it at work producing "Sanitas" fluid and oil on a very large scale.

The works at which these fluids are made are in Three Colt Lane, Bethnal Green; they have been, from time to time, visited by many investigators of considerable eminence in different departments of science and hygiene, and the description of the process as seen by them will serve my present purpose. There are, in the first place, two large boilers furnishing low-pressure steam to work a double acting air-pump, and the latter, in case of necessity, can be replaced by another engine constructed on the principle of a Roots' Blower. The air current thus obtained is passed, under pressure, into an air box and as a result of this its temperature is raised to a point corresponding to that of the mixture through which it is subsequently pumped. In line with the air pump are many rows of wooden vats, each vat contains an earthernware vessel or producer, about three feet in diameter and four feet high: these are immersed in the vats in water, and are kept at a temperature of about 60° C. These producers are charged with 100 gallons of a mixture of water and turpentine, or camphoric oil, or eucalyptic oil, whichever chances to be most handy. Over the producers runs an air main from the blower, and from this a branch pipe passes into each vessel, ending at a junction of the turpentine and the water. The blast of hot air is introduced into the turpentine, and gradually oxidises the latter and makes it also throw down into the water, certain of its constituents in combination with the oxygen of the air. In course of time the turpentine is thoroughly oxidised, although for that purpose the process has to be carried on a long time varying from 50 to 300 hours, according to the quantity of the essential oil employed and the required strength of the products. When the process is completed, the aqueous residuum in the vessel is drawn off, and this residuum is commercial "Sanitas" fluid, the form in which it is bottled for the market, and following it, comes the oxidised gold coloured body known as "Sanitas Oil."

In the course of this prolonged oxidation the turpentine or other hydro carbon, which is used, forms by its rapid absorption of atmospheric oxygen a peculiar chemical principle named by Mr. Kingzett, camphoric peroxide. This substance is the chief constituent of "Sanitas Oil" and is present in such amount that while a gallon of raw turpentine weighs 8.65lbs, a gallon of oxidised "Sanitas" oil weighs from 9.5 to 10 lbs.

In contact with water, this camphoric peroxide is decomposed and gives rise to the production of peroxide of hydrogen, camphor, camphoric acid and other substances, which are dissolved in the water. It is in this way that the water, which is associated with turpentine in the process described becomes converted into "Sanitas Fluid" In addition to the other constituents of this liquid, mentioned above, there is thymol the antiseptic properties of which have been thoroughly recognised and investigated.

As the process of manufacture goes on, the air, which has parted with a large portion of its oxygen to the turpentine, takes up some of the latter, and this has now to be recovered from it; this is managed by causing the turpentine laden air to pass through a series of earthenware jars constructed on the principle of Wolffs' Bottles, in which it is washed with successive quantities of water. In its passage through this apparatus the turpentine condenses and floats on the surface of the water in the Wolffs' Bottles and is afterwards returned to the producers, so that no waste is permitted in any stage of the manufacture.

With respect to the purposes to which "Sanitas" is applicable, we must say a few words. Not the least important, from an economic standpoint, is the preservation of food. It also occupies a very high position as a disinfectant, for while pleasant to use, it neither injures nor stains textile fabrics, nor is it poisonous, and as far as is known very large quantities of the fluid can be swallowed with absolute impunity: in these respects it completely differs from carbolic acid, sulphuric acid, the permanganates, coal tar substances, and other common disinfectants, which are either extremely poisonous and often lead to the destruction of human life or are so objectionable in other respects as to limit their employment. These advantages have been thoroughly demonstrated and highly favourable opinions as to the merits of "Sanitas" products have been given by Sir H. E. Roscoe, M.P,, F.R.S., and by hosts of other eminent scientific authorities. In short, a very brief trial is sufficient to show the value of "Sanitas," which has now taken its place as the most popular antiseptic and disinfectant in the world, and the consumption of which is increasing with such rapidity that at times the resources of the manufacturers are strained to the uttermost to satisfy the general demand.

The factory in which the process of manufacture is conducted is large and well arranged, and with scrupulous regard to the health of the staff; and Mr. Kingzett told me that the death and sick rates were low, and that the workpeople were singularly free from many common diseases. The factory contains a great number of huge receivers connected one with another; and, by the way, as the operations of the company are now on a colossal scale, and are rapidly increasing, it has been thought prudent to have the machinery and the receivers in duplicate, so that should anything go wrong with one set the operations would not be at a standstill. In other departments the manufactured products are, in due course, mixed

and prepared for use in a bewildering variety of ways. In combination with precipitated chalk an excellent tooth powder is made; manufactured into soap "Sanitas" is economical and agreeable. Preparations are also made for washing wounds, instruments, and hospitals, and its consumption in midwifery practice is now large; while among other notable products is Sanitas-sawdust, which is used for sprinkling in poultry runs. It is said that when regularly used in this way disease is unknown, so that there is likely to be a large consumption of it in yards and runs of limited extent, where, as poultry fanciers know to their cost, disease is apt to arise after a time and to kill off the stock. Another liquid known as "Crude Sanitas" is prepared for street watering in hot weather, and for the disinfection of drains, sewers, ash-bins, slaughter-houses, and, indeed, of all offensive places generally.

Among the most curious things shown me were a couple of glass vessels in which mutton chops and beef steaks had been immersed in Sanitas fluid, and had been preserved for eleven or twelve years; these chops and steaks still retain their freshness and firm, characteristic texture. However, we are afraid that no future awaits pine products as food preserving agents, for, unfortunately, a very characteristic odour is imparted to the meat, which unfits it for human consumption. The "Sanitas" disinfectants—fluids, powders, and soaps—are now used by most public health authorities and hospitals in this country, and Mr. C. T. Kingzett is to be congratulated on having overcome the difficulty and opposition, which always beset the scientific investigator who attempts to carry into practice on a commercial scale the inventions he makes in his own laboratory; but this severe opposition is on the whole beneficial, and compels experimenters to pause before publishing their results.

That gentleman is the author of several standard works on Science and Hygiene, and is still engaged in original research. Beyond extending the list of "Sanitas" preparations and the "Bactericides," so well known to medical men by his name, he from time to time communicates papers of much scientific interest and value to the Society of Chemical Industry, and to other bodies of which he is a very distinguished member. It is just possible that we shall hear more of Sanitas before the present generation is much older, and possibly Mr. Kingzett's indefatigable energy and love of work may lead to his preparing some inodorous form. which can be added to milk and other delicate foods, which exposure to heat turns bad; and what a brilliant future would await it could it be washed over meat in hot weather, and while preserving it for some days longer, not give it the slightest *soup-con* of turpentine smell or flavour.

ASSALINI'S FORCEPS.

By G. Cadogan-Masterman, M.D.

Three months ago there was some correspondence in the pages of a contemporary on the relative excellencies of Assalini's and the ordinary forms of English midwifery forceps. The former instrument is of unique type, and possesses several distinct advantages, and yet it is less generally used, and, in fact, less generally known than any of its congeners. And there is one peculiarity connected with its habitual use I have noticed too often to be accidental, and which speaks volumes in its favour—the active development or exaggeration of what astronomers call the personal equation. We have all, I suppose, our favourite instruments; but whenever a man takes to Assalini's forceps, it is always with a warmer feeling of appreciation than so simple a piece of blacksmith's work would at first sight seem capable of evolving; and so he comes to regard it as not only the best for ordinary use, but as superior to all others, and capable of meeting every emergency. But this, I venture to submit, is a mistake. I am very partial to Assalini's invention, but I carry in my by-no-means-heavy bag a pair of Lever's long, and those very feeble, yet most useful extractors, Simpson's short, forceps, and for this reason—Assalini's are only of medium length, not long enough nor suited for application above the brim. To use them there one's hand, as well as the instrument, would have to be within the vagina. And then, when the patient is properly placed on, or rather one-fourth over, the bed, it is so easy to pass Lever's forceps, if we only first introduce the well-soaped left hand into the vagina, with the knuckles lying against the sacrum, the narrow and comparatively light blades taking up so little room. And again, as the reverse of this, when the fœtal head is lying on the perinæum, and we only want to save that from laceration, or to shorten by an hour or so a lingering natural labour, even Assalini's seem to demand too much preparation, too much show of instrumental interference for so simple a business. Then it is that Simpson's little instrument—which can be slipped unnoticed up one's sleeve, and passed without the cognizance of the patient, or even the nurse—comes in so usefully, with the minimum of fuss, and during the femininely exciting moment of the birth of the child can be taken off, wiped and returned to the bag unseen. This is a point trifling enough, and yet one we should not lightly disregard. Rightly or wrongly, most women have a horror of instruments, although I have met with many multipara who have begged for their use as soon as possible; and any instrument, or legerdemain—using this word in its primitive sense—which reduces this antipathy is surely worth consideration.

Now, from the simple form of the blades and shanks of Assalini's forceps, they can be passed with the least discomfort of and disturbance to the patient. She will be lying, of course, near to the edge of the bed, but not over it; then one and the other carefully warmed and oiled blade can be passed beneath, and with a scarcely perceptible lifting of the bed-clothes, locked and left in perfect security, untied, until the moment for their use has come. There is no crossing of handles, no reversal of external and internal positions, no fumbling or *looking* for the lock. When they are rightly applied, the bolt slips into the socket without an effort; and if it do not, we have the valuable intimation that they are not properly—that is, diametrically—placed, and one or the other must be gently moved until it occupies its right position. Then, with a folded napkin rolled round the shanks, what a firm, assured grasp one has! It is as if the fœtal head were itself within one's fingers, or solidly welded to the blades. At the time of passing the vulva, when carrying the head forwards and upwards in the last section of Carus's curve, the handleless character of the instrument enables it to be guided easily between the maternal thighs, the right knee being raised by the nurse, whilst the foot still rests on the bed, which ensures rotating the hip outwards with relaxation of the perinæum, and is the best precaution against laceration whilst the final manœuvre is being performed.

The instrument, being entirely of steel, can always be absolutely disinfected—as it ought to be—after every case, by placing it in a hot solution of caustic soda. I have used

this most effectual of all plans—for the alkali dissolves every form of septic matter—for many years with all my metallic instruments, and am surprised that it is so little known. The closest of spirals, the most slender of catheters, can be cleansed by it as perfectly as a knife blade.

Assalini's forceps are of essential service in the very operation they tend to make the most rare—craniotomy; for, as the blades can be unlocked without loosening their hold upon the cranium, we have, by keeping the perforator in the long axis of the shanks, an unerring guide to the vertex. The horrible scissors can be thrust boldly in without the slightest chance of injury to the mother so long as this direction is preserved. Then, the points of the perforator having been pushed down to the *foramen magnum*, rotated, the crucial cuts made, and withdrawn, the forceps are re-locked, and we have one of the best of crushers and extractors—far better than the clumsy craniotomy forceps—without a change of instruments. Assalini's are, under these circumstances, far more powerful than any of English pattern, for the obvious reason that the only limits to the approximation of the blades are the resistance of the fœtal cranium and the strength of the operator. With forceps having a central lock or pivot the contact of the handles is the limit of their crushing power, as can be tested in a moment by grasping one's own arm between, say, a pair of Barnes's, and then with Assalini's forceps. Now, when the cranium has been opened, it has lost its fluid internal support, and can be crushed like an egg-shell, and within the safeguard of the scalp. I have only had to perform this revolting operation three times amongst over a thousand deliveries, but as I felt the incised head collapsing under my hand, I was thankful to know that one peril at least was absent, the possibility of lacerating the vagina with some sharp fragment of bone brought away with an unexpected jerk by the treacherous slipping of the more generally used instrument. I once saw a case in which the bladder was laid open by a so-called accident of this nature. I need hardly say that the blades should be thrust in as far as possible when they are used for this purpose, and that with the apices well under the base of the shattered skull, they make the best of tractors.

There is a fertile source of error in casually estimating what is called the relative "power" of different forceps; one is so apt to think that length and weight are the measure of it. Long forceps, from their more imposing, or, as Tyler Smith says, "martial" appearance, are often called more powerful than the short variety. But this is from forgetting that, being a pair of levers of the first order, the effective crushing or holding force transmitted from the operator's hand is in inverse ratio to the length of the shanks and blades compared with that of the handles. Therefore, an instrument with long handles and short blades is the more powerful; but none of English model can carry more than 72 per cent., I have shewn,[1] of the hand-force exerted, it is assumed, in the centre of the handles to the middle of the blades. Smellie's *short* forceps do this, Hodge's do more, but the latter are of French pattern, and unsuited for use in any but the French obstetrical position, which, although theoretically the best, is opposed to our nicer feelings of professional delicacy.

Assalini's differ from all others in having the fulcrum not near the centre, but at the extremity; they resolve themselves, therefore, into a pair of levers of the third order; and as they are grasped by the shanks about midway between the joint and the centre of the blades their "power" there is approximately half of that exerted by the operator, or 20 per cent. more than can *cæteris paribus* be obtained with Barnes's. And, as the strongest grasp cannot bring the shanks into contact, their holding capability is limited solely by the strength of the user; they cannot slip if they have been properly applied, that is with the apices as low as the fœtal cheeks, and the harder one pulls the more tightly they hold; whilst directly the hand is relaxed the child's head is relieved from all pressure save that of the maternal organs, and yet the forceps remain safely *in situ*, and have never to be tied.

An important factor in the power of these instruments is the rigidity of the shanks; we may grasp the handles of the ordinary form until we force them into contact and fancy that we are compressing the fœtal head with equal might; but, if the shanks be weak, and especially if flattened in the same plane as the face of the handles, this may be quite illusive, we are bending them, not squeezing the head. In using the long forceps, that is within the uterus, this matters little, for, except in cases of absolute uterine inertia, the pressure our hand can exert is trifling compared with the enormous strain of the contracting organ itself. A pressure of 100 pounds, for instance, on the handles of Simpson's long forceps, would give but forty pounds—assuming the shanks to be rigid—distributed over nearly one-fourth of the area of the head, which is as nothing compared with the *centals* of compression of a healthy uterus. We have simply to pull in the right direction during the pains; the womb will take care to keep the blades in place. But when the head is without the *os* the conditions are reversed, the human vagina, unlike that of the mare or cow, has little muscular power, and there we need an instrument with the maximum of holding capabilities as well as affording a good grasp for traction, and Assalini's fulfils both conditions most satisfactorily.

But, it has been objected, why go to the expense and take the trouble to carry three instruments when one—a pair of good, long forceps—can do the work of them all? For the same reason that I have three blades in my pocket knife—I could trim my roses, or my nails, or even mend a pen (for to the confusion of compositors I still hold to the grey goose quill) with the larger, but not so conveniently. And as for the cost, when one must spend at least £100 on a decent *armamentarium* for country practice, what does that matter. When a fœtal head is impacted low down in the pelvis, or perhaps is lying on the perinæum, to have to bring a patient over the edge of the bed, to re-disinfect, warm and oil a huge pair of long forceps, to have to hold them almost at arm's length, to demand tape for tying them, is more than the occasion requires. And, above all, it is making a fuss, alarming the patient, and very possibly putting her to a good deal of unnecessary pain. It is like brandishing a two-handed sword to kill some puny enemy we could despatch with a stiletto. As for my long forceps, I might almost as well leave them at home; I find I have used them three times in eight years, but, then, once was with a patient five miles from my house. I use forceps in about twelve per cent. of my cases, sometimes from absolute necessity, but more frequently from pity to the mother—with their aid, and with no added suffering, we can do in a few minutes the work which Lucina labours so hard to perform in an hour or more, and especially when I am anxious as to the integrity of the perinæum.

[1] *Vide* a paper "Dynamometrical Experiments with Midwifery Forceps," *Lancet*, August 16th, 1879.

THE DRINKING WATER OF COWS IN RELATION TO SUMMER DIARRHŒA.

By A. W. Martin,

medical officer of health, gordon.

So much has been written upon summer diarrhœa, and the subject worked out so exhaustively by others, that it would appear as if there is little more to be said upon the subject, or ony fresh light thrown upon the cause or causes of the disease. The mortality from summer diarrhœa is excessive; last year it numbered nearly 6,500 for the months of July, August, and September; for the whole twelve months the deaths exceeded 12,000. It is, however, with summer or epidemic diarrhœa that this article refers to, for there is little doubt that the disease termed diarrhœa, and returned as the cause of nearly 6,000 deaths during the other months of the year, is totally different and distinct in its cause from that particular variety known as epidemic or summer diarrhœa. The two chief points which particularly strike one in the etiology of the disease are its coincidence with the hot dry weather, and the prevalence and fatality of it in children under five years of age, the great bulk of the disease and deaths occurring amongst infants and young children for whom milk forms or should form the staple diet.

The fact that infants fed exclusively by the breast very rarely suffer or die from the disease, yet others of the same age brought up on cow's milk are the ones in which it proves most fatal would naturally lead us to the conclusion that the cause is traceable to the difference in their food, and not to the heated atmosphere to which both are subjected. My experience with condensed milk, in nearly all cases, corroborates the testimony of many others, that if used exclusively in the feeding of infants, it rarely gives rise to choleraic or summer diarrhœa, but cases frequently occur in which it would appear as though such were the case from the mother's or nurse's statement; but on closer examination there is generally elicited the fact that the condensed milk started the diarrhœa; its food was then changed to fresh cow's milk, with the result that very quickly the child "took a change for the worse." The form of the disease which is started by condensed milk and other artificial foods, is generally simple or irritative diarrhœa, and should it not cease in a day or two, a change of food is nearly always tried, and the change generally made is to cow's milk. The one form presents the characters of a local disease, simple irritating matter in the stomach and intestines, non-septic; the other gives the symptoms of the introduction of septic matter into the system, and producing general poisoning. In the treatment of summer diarrhœa, little good is done unless milk is prohibited and the child put upon water or barley water, and should the milk from the same source be again given, the disease invariably returns; in many cases where condensed milk or farinaceous food has been given too soon after the attack, the diarrhœa induced has then been of the simple or irritative type. The fatality of diarrhœa each year is always in proportion to the temperature, a hot summer having a high fatality, and a cold wet summer the reverse. The relation of the summer heat to the different forms of diarrhœa, from personal observation, appear to be that simple diarrhœa is induced or aggravated directly by the heat, whereas the choleraic or summer diarrhœa is brought about indirectly by the prolonged hot weather.

In an article in the *Illustrated Medical News* of June 8th, 1889, on the report of Dr. Ballard to the Local Government Board upon the causation of summer diarrhœa, the following occurs: "It is an established fact that a high atmospheric temperature conduces to a high diarrhœal mortality, and a low atmospheric temperature to a low diarrhœal mortality; but its influence is exerted indirectly, and is subsidiary. The temperature of the earth is a far more important condition, and Dr. Ballard has established that the summer rise of diarrhœal mortality does not commence until the mean earth temperature at a depth of four feet from the surface has attained somewhere about 56° F., no matter what may have been the temperature previously attained by the atmosphere, or recorded by the one-foot earth thermometer; and the maximum diarrhœa mortality of the year is usually observed in the week in which the temperature recorded by the four-foot earth thermometer attains its mean weekly maximum. Similarly the decline of the diarrhœa mortality coincides with the decline of the temperature recorded by the four-foot earth thermometer; but as the temperature at this depth declines very much more slowly than at the surface, so the epidemic mortality may extend somewhat into the fourth quarter of the year. Rainfall has probably only an indirect influence, and acts by affecting the temperature. Dry seasons and calmness of the air are favourable to the diarrhœa."

"Water pollution has little or nothing to do in the way of direct causation, but certain undefined polluted conditions of drinking water have from time to time appeared to give rise to epidemic diarrhœa."

"Dr. Ballard does not think the epidemic diarrhœa arises from indigestibility of food, but is due to some substance occasionally injected with food, and contaminating the latter. Infants fed upon the breast are remarkably exempt as compared with infants otherwise fed, especially those brought up with artificial food, to the exclusion of breast-milk, and exposed to neglect from one cause or another."

In those cases where the milk supply is suspected of being the cause of the diarrhœa, the contamination is supposed to have taken place between the time of leaving the cow and being taken into the stomach. In many cases such is probably the case, and as a rule giving rise to non-septic, simple, or irritative diarrhœa, but the type of the disease under discussion is the epidemic or choleraic form, and as the bulk of it appears to be traceable to the milk supply in children and adults, I propose to trace the cause to the drinking water of the cows rather than to the milk becoming contaminated after leaving them. It is well known that the milk of all animals is very materially affected by what they eat and drink. Up to the present, attention has been directed more to the effect of food upon the milk and its products than the water supply, yet it is obvious that the milk must be affected more or less by the water the cows drink also. The milk from cows fed on sour grains and on mangolds have repeatedly been proved to be the cause of diarrhœa. The milk of goats and other mammalia which have browsed on poisonous herbs has also proved poisonous. The water supply for cows in the majority of farms is dependent on the ponds, etc., in the fields, and it is easily seen how it becomes foul in the extreme after three or four weeks of hot weather without any fall of rain, from drinking, evaporation and their excrement falling into it; in fact, little or no difference to drinking warm sewage. The epidemic

of the summer diarrhœa commences "when the mean earth temperature at a depth of four feet from the surface has attained somewhere about 56° F., no matter what may have been the temperature previously attained by the atmosphere, or recorded by the one-foot earth thermometer; and the maximum diarrhœa mortality of the year is usually observed in the week in which the temperature recorded by the four-foot earth thermometer attains its mean weekly maximum." A heated atmosphere of some weeks duration, a ground heat of 56° F., or higher, at a depth of four feet, and the water saturated with excrement, forms suitable conditions for the development of micro-organisms, and the products of their life-processes.

It may be objected that if the water is so bad as to affect the milk it should also produce disease in the animal itself; but such is not necessarily the case. Many animals feed upon certain plants which render their flesh and milk poisonous, yet not deleterious to the animals themselves. "The poisonous nature of the flesh of animals which have fed on certain plants—for example, hares which have fed on certain species of rhododendron, pheasants on the calmia, etc.—has been abundantly demonstrated, and need only be referred to here. The honey from bees which have garnered on poisonous plants, as the azalea, may likewise be deleterious, and the fact is of classical interest. The milk even of goats and other mammalia which have browsed on poisonous herbs has also proved poisonous."[1] Our domestic animals—the cat and the dog—eat with impunity and relish such filthy putrid substances as no doubt would produce disease, in some form or other, with us.

"Milk may contain foreign bodies (in a changed or unchanged condition) which have been previously taken into the system."

The effects of food and drink upon the milk of a nursing woman is known to everyone. "The character of the milk depends to a great extent upon the feeding and exercise of the mother, and diet is the most important agent in regulating both the quality and the quantity of the milk. Many substances are excreted in the milk, such as ammonia and the aromatic oils. Amongst those which have actually been found to pass into the milk are the oils of anise, cummin, dill, wormwood, and garlic, as well as turpentine and copaiba. Volatile oils, having an agreeable taste, appear to render the milk more pleasant to children, so that they take the breast eagerly. Garlic, on the contrary, renders the milk disagreeable to children, so that they will not take it. Copaiba also renders the milk disagreeable. The administration of acids to nursing mothers is generally to be avoided, as they are apt to cause griping in the child. Neutral salts, as a rule, pass into the milk, and cause looseness of the bowels in the child. Senna, castor oil, rhubarb, scammony, sulphur, and probably jalap, act as purgatives to the child. Salts of potash, administered to the mother, will act as diuretics to the child. Turpentine, administered to the mother, also can be detected in the urine of the child, and this is also the case with copaiba and iodide of potassium."[2]

The distribution of the disease at the onset takes a course as if following the milk supply of certain farms, no doubt the milk becoming affected first at those farms at which the water supply is most deficient and contaminated. A wet cold summer determines a low mortality from choleraic, summer, or septic diarrhœa: the water supply is more abundant and less contaminated, and the grass being more abundant and succulent, the cows are not driven to the ponds by thirst so much as in hot weather; also the ground heat being less, the ponds are more filled with water and less contaminated, the conditions are less favourable for the development of micro-organisms.

"In Leicester, of 341 fatal cases, only two per cent. were suckled from the breast alone; the majority of them had some kind of artificial food; sixty per cent used cows' milk. As Cardiff has a very low prevalence of diarrhœa, Dr. Ballard asked the health officer how it was that diarrhœa was so slight, and especially amongst the Irish people. The reply was that the Irish of Cardiff got very little cows' milk, and the infants got no cows' milk."[3]

In the face of such evidence, it is not difficult to understand, from the drinking-water of the cow being charged with the chemical products of decomposition under the conditions mentioned before, how some of these chemical products may pass into the milk, either changed or unchanged; and, though apparently not affecting the animal itself, yet may be the chief cause in the production of summer diarrhœa in the human subject.

As all farms are not dependent upon ponds, etc., for their water supply, so all the milk sold in the heat of summer is not affected in such a way as to give septic or choleraic diarrhœa.

These few remarks and suggestions upon the causation of the disease may help to throw more light upon the milk theory, which apparently is so contradictory, and also coincides mainly with the deductions of Dr. Ballard in his provisional explanation of the malady.

"That the essential cause of diarrhœa resides ordinarily in the superficial layers of the earth, where it is intimately associated with the life processes of some micro-organism not yet detected, captured, or isolated.

"That the vital manifestations of such organism are dependent among other things, perhaps principally upon conditions of season and on the presence of dead organic matter which is its pabulum, that on occasion such micro-organism is capable of getting abroad from its primary habitat the earth, and having become air-borne, obtains opportunity for fastening on non-living organic material and of using such organic material both as nidus and as pabulum in undergoing various phases of its life history.

"That in food inside of as well as outside of the human body such micro-organism finds, especially at certain seasons, nidus and pabulum convenient for its development, multiplication, or evolution.

"That from food, as also from the contained organic matter of particular soils, such micro-organism can manufacture, by the chemical changes wrought therein through certain of its life processes, a substance which is a *virulent chemical poison;* and

"That this *chemical substance* is in the human body *the material cause of epidemic diarrhœa.*"

[1] "Quain's Dictionary of Medicine," p. 1234.

[2] Lauder Brunton, "Pharmacology," p. 400.

[3] *British Medical Journal*, September 1st, 1883.

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

Iodoform-Dermatitis and its Treatment—A new Salicylate of Soda—The Treatment of Burns—Hypodermic Injections of Mercury—A rival to Saccharin—The Treatment of Sycosis—The Physiological action of Adstringents.

Dr. Kolbe, of Rossleben, reports in the *Therapeutische Monatshefte* on *Iodoform-Dermatitis* He observed two cases of intense irritation and inflammation of the entire cutaneous tissue after external application of iodoform. In the first case a thumb had been amputated; the wound was dressed with corrosive sublimate gauze, and seemed to heal *prima intentione*. On the eighth day sutures and drainage-tube were removed; a very small quantity of iodoform was dispersed over the canal left after the removal of the drainage-tube, and the stump dressed with corrosive sublimate gauze and cotton wool. It was thought that further change of dressing would not be necessary. On the following day, however, intensive itching was felt all over the stump. On the third day this became quite unbearable; the dressing had to be removed, when it was found that the skin round the wound was red, œdematous, and covered with innumerable vesicles and blisters, containing serous fluid; some had suppurated and contained pus; others were already found emptied. The size varied between a hemp-seed and a hazel nut. This vesicular eruption implied the whole hand with all the fingers and the lower third of the forearm. It was treated with bandages moistened with one per cent. carbolic acid, under which treatment the dermatitis passed off in the course of a few days.

The second case of iodoform-dermatitis happened in an ulcerated leg which had existed for two years. One year ago the patient was advised to have some iodoform vaseline put on her ulcer. A vesicular eruption with signs of intense inflammation ensued. Kolbe not having been informed of the patient's peculiar idiosyncrasy towards iodoform, again applied it on the ulcer. After two or three days the whole leg began to appear red and swollen; intense itching and burning was complained of, and the skin soon became covered with blisters, which bursted, discharging great quantities of serous fluid. Some of the blisters were of much larger size than in the first case After application of

Acid carbol... ..... gr. x.
Ol. olivæ .....
Ol. terebinth .....āā ʒ ss.
f. linimentum.

the skin soon was restored to its normal appearance.

"*On Dithiosalicylate of Soda ii.*" is the title of an interesting communication made by Dr. Lindenborn, physician to the Municipal Hospital of Frankfort-on-the-Maine, in the *Berlin Klin. Wochenschrift*. Dithiosalicylate of soda i. and ii., as prepared by Baum, are two isomeric substances of the following chemical constitution:

$$\begin{array}{l} S{-}C_6H_3{<}\begin{array}{l}OH\\CO.\,OH\end{array} \\ | \\ S{-}C_6H_3{<}\begin{array}{l}CO.\,OH\\OH\end{array} \end{array}$$

They therefore contain two molecules of salicylic acid bound to two molecules of sulphur. The salt N ii., to which Lindenborn's experiments were confined, represents a greyish-white powder, very hygroscopic, entirely soluble in water. Any acid added to the solution produces a precipitate of yellow viscid drops, consisting of dithiosalicylic acid. Perchloride of iron added to the aqueous solution of the soda salt produces a faint violet colour. He administered the preparation to a patient for about eight days, and failed to discover salicylic or dithiosalicylic acid in the urine.

According to the researches of Hueppe a twenty per cent. solution of dithiosalicylate of soda is able to destroy the spors of anthrax in the course of forty-five minutes. Simple salicylate of soda submitted to the same test has no such action. Experiments with cholera and typhoid bacteria, staphylococcus aureus, and the microbes of the blue pus, furnished results equally favourable to dithiosalicylate, which, therefore, as a disinfectant and antiseptic is much superior to salicylate of soda. Up till now he used dithiosalicylate ii. in five cases of rheumatic fever, in four of which several joints were affected, in one only one joint was implied. He also used it in a case of gonorrhoic rheumatism, complicated with srido-chorioiditis. In the slighter cases he prescribed three grains to be taken twice a day, morning and evening; in the more serious cases three grains in the morning, and the same repeated two to four times in the evening, one hour's interval intervening between each dose. In the slighter cases fever, pains, and swelling of the joints entirely disappeared after two days; in the more serious after six days at the utmost. In one case recurrence was not prevented, but in this case a relapse had previously followed the salicylic acid treatment.

A reduction of the evening temperature, amounting to 2-3°, was produced by two to four doses of three grains each. A temperature of 102.4° was after three hours reduced to 100°; another of 100.4° to 98.4°, and 100° to 98.4°, etc. A decrease of the frequency of pulse in proportion to the abatement of temperature was constantly observed. Humming of the ears and nausea never occurred; sweating was confined to cases where upwards of twelve grains had been given in the course of one day.

One case of gonorrhoic inflammation of the knee-joint had at another hospital been treated with salicylate of soda, the daily dose amounting to 1-1½ drachms of this salt. At the Frankfort Hospital, where the patient subsequently was transferred to, this treatment was continued for twelve days, but to no avail. Pain and swelling of the knee did not disappear, and the evening temperature remained at 100° to 101°. It was now resolved to try dithiosalicylate, three grains twice a day. Soon after this treatment was began the evening temperature never went above 99.6°, and ten days afterwards the patient was entirely cured, and fit to go to work again. The antipyretic action of the drug was tried in a case of consumption; doses of six grains in this case had no effect whatever on the temperature.

Lindenborn claims the following advantages of dithiosalicylate over ordinary salicylate: It has a powerful action; it need not be given in such large doses as salicylate; it has no ill-effect on the stomach, nor on the heart or great vessels; it does not produce collapse, nor humming of the ears. The author states that further trials will, of course, be necessary with this new antirheumatic. It suffices for him to have drawn the attention of the profession to a preparation which may, he confidently hopes, be of avail

in the often long and tedious treatment of some rheumatic affections.

In the *Pharm. Post* the following *Treatment of Burns and Scalds* is recommended: The affected parts are first washed with an antiseptic lotion, boracic acid solution (1 in 30) being the best; they are then covered with antiseptic paper, which contains one per cent. of boracic acid, and which has been dipped into a five per cent. solution of cocaine. A layer of absorbent cotton-wool is placed over the paper, and the whole dressing is left for a few days. Pain is immediately relieved by this treatment; boracic acid secures antiseptic healing, which is effected in the course of a few days.

Soukhoff, in the *Pharmaceutische Zeitung*, recommends *Injections of Vermilion* instead of the mercury preparations usually employed for subcutaneous injections. He claims the following advantages for this new method: non-irritability, absence of pain, excellent effect. He used the following formula:

Cinnaboris ..... ʒ i.
Ol. Amygdalæ ..... ʒ i.

If his experience should be confirmed it would, perhaps, be even more advantageous to replace the red crystallized sulphide of mercury called vermilion by the black sulphide of mercury, which may be prepared as a much finer powder, and which formerly used to be an important constituent of the pharmacopœia of our forefathers under the name of Æthiops mineralis.

Methyl-benzoic Acid Sulphinide is the somewhat complicated name of the latest rival to saccharin. It is claimed for this new preparation that its sweetening powers considerably excel those of saccharin. A finest crystal needle of two mm. length, dissolved in a tumblerful of water, is said to taste as sweet as the sweetest syrup.

The most effective treatment of *Sycosis of the Beard* is said to consist of inunctions of iodoform lanoline. Alfred Loech, in the *Deutsche Med. Zeit.*, recommends the following formula:

Iodoform precipit..... ʒ i.
Lanoline ..... ʒ i.
f. ungt.

A small piece of this ointment is, every evening, rubbed into the affected parts, the beard having previously been washed with hot water.

Dr. Heinz, of the Pharmacological Department of the Breslau University, has made extensive researches on the *Physiological Action of Astringents*. The experiments, the results of which are published in *Virchow's Archiv.*, imply the following astringents: tannic acid, alum, acetate of lead, sulphate of zinc, perchloride of iron, sulphate of copper, nitrate of silver, and corrosive sublimate. The veins of cold-blooded animals were contracted by very weak solutions of these substances, the strengths being: corrosive sublimate 0.05 per cent.; nitrate of silver, acetate of lead, and sulphate of zinc, 0.1 per cent.; perchloride of iron, sulphate of copper, tannic acid, and alum, 0.5 per cent. In warm-blooded animals styptic effects were distinctly manifested by solutions of the following strength: sulphate of zinc, acetate of lead, tannic acid, five per cent; nitrate of silver, sulphate of copper, two per cent.; perchloride of iron, and corrosive sublimate, one per cent.

THE ASPIRATIONS OF AMERICAN MEDICINE.[1]

By W. W. Dawson, M.D. (Cincinnati).

The Premier, Mr. Gladstone, after quoting the statistician who estimates the English-speaking people at the close of the next century at one thousand millions, says: "What a prospect is that of many millions of people, certainly among the most manful and energetic in the world, occupying one great continent." This destiny in numbers is startling, but the assertion of Dr. Dollinger, a German scholar, portrays the culture of the future almost as strikingly when he says "that the intellectual primacy of the whole world is certain to fall to the Anglo-Saxon race." Most of that race will be in America.

Looking to such a future the position of the learned professions is certainly conspicuous—their obligations imperious. Medical men should be loyal to this grand destiny. An eminent modern critic, in discussing civilisation in America, while admitting that we have well solved the political and social problems, asks what have we done to solve the human problem, "the humanisation of man in society." The struggle in his own country, he asserts, has resulted in "an upper class materialised, a middle class vulgarised, a lower class brutalised." We trust that our efforts have yielded better fruit; and since medical science and medical men are prominent factors in society, among every people, we may well ask, what have they accomplished, what part they have here taken in the solution of the vital problem? In the "Century of Medicine," Prof. E. W. Clark in his classical address says: "It is not an extravagant assertion to say, that in all this turmoil, change and progress (referring to the revolutions and changes in society, religion and government for the past century), medicine has kept abreast of the other natural sciences, of politics, and of theology, and has made equal conquest over authority, error and tradition," and it may be added, has contributed largely to man's comfort, happiness, and advancement. To intensify this, reference need only be made to some of our triumphs, to vaccination, to anæsthesia, to sanitation, the prevention of pestilence, the lengthening of human life. It is, however, more especially the contributions of the profession in America to which attention is desired at this time. What are we doing in the humanisation of man, in the work of civilisation.

Are our medical practitioners and our medical teachers what they should be? We shall see. Criticisms abound concerning the defects of medical education. Those who do not condemn, often ridicule. These criticisms and strictures are made for the most part, it must be said, by gentlemen unacquainted with teaching, without any practical knowledge of the constitutions of medical colleges, or of the toil, devotion and sacrifice made necessary by those engaged in didactic and clinical instruction.

These censorious addresses are delivered before and to a body of professional gentlemen, the peers of any, some of whom have grown gray in the hard service, others are still in the prime of life, with reputations coextensive with civilisation. The rest are young, full of life and enthusiasm, fired with ambition to render loyal service to that profession which they have chosen. Can our system be so defective? The pessimistic orator seems to forget that he is the product

[1] Delivered at the Fortieth Annual Meeting of the American Medical Association, Newport, R. I., June 25th, 1889.

of the system of medical education which he is so severely condemning. Some one has said, "By retrospection and introspection and individual, like a profession, may be benefited." In this self-examination we should have but one motive, the elimination of error, the development and support. Education cannot make all great or equal. It tends, however, to make all safe. In the crucible of private, practical life, evolution asserts itself and the fittest survive. In making a retrospect of our profession it may be well to look for a moment at medical teaching in this country.

The way is long between Aristotle, and Bichat, and Buckle says that he found no middle-man in this long period; it is darker than it is long. During all this time medicine was not taught legitimately. The renaissance, if it may be so called, began with Hunter and Bichat. No real progress, however, could be made while oxygen remained locked in the silent embrace of all organic and inorganic nature. Priestly, escaping from the religious and political contests, and it may be persecutions, of the world, came to this country to demonstrate his great phlogiston, oxygen.

Bichat and Hunter restored the proper study of medicine. They represent the turning-point from idealism, speculation, and theory, to accurate and close observation. The latter, John Hunter, in 1767, was lecturing and taking students into his own house, and it is curious to know that here, in far off America, Shippen and his contemporaries in Philadelphia and New York, about the same time, or very soon after, began teaching medicine and surgery upon essentially the same plan. Of these men, one who so recently passed away, that you can almost hear the sound of his voice, and feel his magnetic presence, when speaking of the men who lived at the close of the last, and during the early part of this century, said, and justly said, "Not a few of them were the worthy peers of Roux, Abernethy, Crampton, Bell, Graefe, and Scarpa."

To quote again: "During the past century, medicine has been enfranchised from superstition, *quasi*-charlatanism, bold empiricism and speculation, and has developed into a symmetrical science, affiliated with other natural sciences, studied by the same methods and by the same appliances as they are, and like them, has been planted upon the solid basis of fact and demonstration." It may be profitable for use to inquire and determine what part the profession in America has taken in placing medicine upon the high ground which it occupies. What have we done, what are we doing, and what forecast can we make of the future?

At the close of the eighteenth century, Boerhaave declared that all that had been learned up to that time was comprised in three propositions: "Keep the head cool, the feet warm, the bowels open." All other pages in the volume which he left were blanks. Many pages, however, it will not be denied, have been filled during the present century. What have been our contributions? Have they been such as to rank us with the acknowledged conservators of mankind?

In giving attention to this subject let us for a moment reflect upon the peculiar position of the profession and of medical teaching in this country. For many years (and even now) with few exceptions, medical colleges were the creation of the members of the profession, most often of the faculties composing the schools, without endowment—indeed, it may be said that almost everything on this continent is endowed, except medical colleges—without Governmental aid, depending for their support upon the sacrifice of time and money on the part of the gentlemen occupying the chairs. Yes, not only without patronage from the Government, but society, from some unknown causes, has ever been against legitimate medicine, depending upon the scientific physician in time of trouble, yet, in the interim, openly supporting all sorts of shams, frauds, and impostors. Elsewhere, college work is provided for by the State; especially laboratory investigations—the nature and the genesis of disease. Hence, it is not strange that in such departments we may not be so far advanced as our European brethren; but, while we have engaged in experimental studies, we have developed the practical. But everywhere is seen among us an earnest, a burning desire for higher culture, for more exact and accurate knowledge. Especially is this true of our younger members and of those about entering the profession.

A movement is being made to cencentrate those who have had preliminary advantages—those who enter the profession as college-bred. No objection can be urged to this if it be not too exclusive. All efforts, in fact, to refine our profession without emasculating it, should meet with judicious approval.

THE PHYSICIAN OF THE FUTURE.

Whence are medical students to come? What facilities are now afforded, and what does the future promise for the education of our young men, the class from which the medical student, the "coming doctor," is to be selected? The answer to this question will give some comfort, we trust, to the pessimist, and soothe the restless and at times unreasonable critic. And now as to our resources for this work.

By the last census it was shown that nearly four thousand institutions—schools for higher learning—existed in the United States, and that nearly four hundred of them ranked as Colleges or Universities. In these are massed, yearly, sixty thousand pupils. They, together with two hundred thousand common, or primary schools, in the higher grades of which the curriculum nears that of many colleges at home and abroad, a third of a century ago, may be looked upon to supply, year after year, a better material from which medical students will be drafted.

Prof. Charles W. Eliot, in his beautiful and forcible Centennial response, enumerated our educational facilities more generously. He painted our future more hopefully when he spoke of 8,000,000 children in elementary schools, 250,000 in secondary schools, 60,000 in colleges, with 360,000 teachers to train and develop them.

Everyone travelling through the States—especially those of the West and South, and those situated in the far away mountains, and on the Pacific—must be impressed with the onward march of public instruction, the gradually increasing general intelligence, and the vast sums that are annually expended for the education of the people. Public school buildings, by their size, adaptation, and attractive surroundings, give an impression which the most sceptical must feel, a promise for the future which cannot be misread. From such as these scientific medicine must reap a share. Every teacher, every one connected with the examination of candidates for the medical degree, knows—and the knowledge is reassuring—that, year by year, the grade of the medical student is advancing, that the material out of which the practitioner is made is constantly growing better, becoming stronger; in other words, that the preliminary education of

our students is steadily becoming more broad and comprehensive. I gave utterance to this view a few years ago, in an address which I had the honour of delivering to the State Medical Society of Ohio. Time, I believe, has confirmed what I then said. This confirmation is seen in our graduates as they go forth to take up the line and battle of life. Are they not the equals of the graduates in other professions, in law and theology? As life advances, are they not the peers of any, in all the useful elements of true manhood? Are they not the citizens of best rounded characters, citizens most relied upon by their neighbours in foul as well as fair weather?

Again, in addition to facilities already referred to, the most generous provisions are being made, all over the land, for institutions which will be worthy to be called universities. From these, graduates will emerge worthy to rank by the side of those bearing the prized degrees from Oxford, Cambridge, Paris, Heidelberg, or Leipsic.

During the summer of 1888 I witnessed the beginning of a university in California which, in scope and equipment, will surpass probably any school upon the continent. Should Governor Stanford live to develop his conceptions, that far-off State will have an institution of which not only the Pacific Coast, but our entire country; yes, all civilisation, will feel justly proud. It may be so liberally endowed that it will command the best abilities of the world.

Of course, upon such an occasion as this it would hardly be expected that I should in detail refer to the many liberal donations and bequests which have been made, by generous citizens, for developing higher culture—a more comprehensive education. I will, however, be pardoned for referring to a few, and I may say, without being too enthusiastic, that the future is aglow with promise. The high-hearted examples which have been set will be followed by other favourites of fortune, and this country may surpass the world, not only in common schools, but in her institutions for broader and deeper education.

In looking at this promising future, may we not hope that, before another half century closes, students from the old world will flock to this to sit at the feet of the wisdom here installed? Is it too much to hope that, in the not-far-off future, the preliminary education of our students will be equal to that required in the best schools of the world?

Defective as has been much of the material, yet have we not produced some marked results? Our best are equal to the best anywhere; mediocrity always and everywhere finds its own. The poor in medicine, the weak brother, however much we may deplore him, however much we may train him, we have, like the poor, always with us. This is the lot of humanity in all lands, among all peoples, new or old. A word as to the physical qualities of "the coming doctor." Recently a distinguished foreign traveller, in speaking of our educational facilities and national peculiarities, said: "Students are much calmer than their colleagues in Europe. They don't at all trouble themselves about politics or affairs outside their line of duty, and with the practical sense which animates the nation, they try to make the best use of their time. They fight no duels, and it is only for health and recreation that they take part in various sports and games." The remarks apply with equal, in fact, with greater force, to medical students.

It is to the country schools, not to the city-bred, that medicine must look for many of her strong recruits. Cities too often emasculate—young men are vitiated by indulgence and vice before they become possessed of serious thoughts, before they realise the elements of a healthy, vigorous life. It is this country-bred, this excellent material which is, as we have seen, yearly growing better and better qualified to enter upon the duties of the profession. From these we must look for the men of distinction, the leaders of the future.

Is this picture overdrawn? One word more. In many of the States of the Union, in addition to the liberally supported free schools and schools for higher education, already colleges have been established through the munificence of the General Government, in which the degrees of A.B. and A.M. may be obtained. They are absolutely free colleges, at which the poorest boy in the commonwealth may receive a classical education. And here you will allow me to say, we cannot insist too strongly upon the necessity of classical education; without it the medical man must ever be at a disadvantage. Without a knowledge of Latin and Greek sure and distinguished success is uncertain. The student may neglect algebra and the higher mathematics, but let him by all means have a liberal knowledge of languages.

At the last commencement of one of our western schools "forty per cent. of the graduating class had been admitted on diplomas from literary or scientific colleges. The balance of the class had received from one to five years of academic or collegiate instruction." This college is without endowment—depending entirely upon the learning, devotion, and sacrifice of the faculty.

But to return. Prominent among the States in providing institutions for advanced culture, the great frontier state, Texas, claims a high position. The University of Texas will be one of the most liberally endowed; millions of acres of land have been donated for university purposes. There, in that Empire state, may yet be seen one of the greatest schools of literature, science, and philosophy on the Western Continent. The university of Virginia, projected in the early days of the century by her great commoner, Thomas Jefferson, has yearly sent forth graduates equal in all the elements of advanced scholarship to those from any school.

This may seem high praise, but the records of her alumni justify me. The same may be said of Harvard, Yale, Princeton, Columbia, Cornell, and of most of our older institutions. The University of California has already an annual revenue of about $200,000. The Michigan University, with a yearly income of almost a quarter of a million of dollars, has well nigh two thousand students, taught by more than one hundred teachers.

Let us not, gentlemen, be impatient. The influences are already projected which will give us students equal to—up to—the highest standard of preliminary preparation. If we have accomplished so much in our primitive stage, what may we not expect when all our great preparatory works come fully into action?

From this view of the resources from which medical students are to be drawn, and of the liberal preparations and facilities for their culture, we may well ask What is the profession doing to profit from such advantages?

Some of the classical schools at Oxford and Cambridge were organized as early as the thirteenth century, but the systematic, scientific study of medicine and surgery came long subsequently—not for four hundred years later—about the middle of the eighteenth century. It was first projected

in Great Britain, and soon after in our Atlantic cities. Unlike the Old World, our fathers had a wilderness to conquer before progress could be made. When the pilgrim fathers left England, reading and writing were rare accomplishments; chimneys in that country had just been invented, and flock beds were luxuries. The adventurers—the emigrants to these shores from that ancient and imperfect civilisation—had much to learn, but in the midst of their pitiable ignorance, facing great hardness and pressing wants, they were quick to provide educational opportunities for all. The results of their efforts are apparent—they are before us. Could more have been accomplished in one century?

MEDICAL SCHOOLS.

Our medical colleges now number a few more than one hundred. They may be classed as: 1. Metropolitan, those in large cities. 2. Medical colleges in less pretentious cities. 3. Medical colleges in small cities. 4. State medical colleges. For convenience, however, we may speak of them as metropolitan and provincial.

Before speaking more definitely of our medical institutions, allow me to refer for a moment to the proposition, that medical schools in our country have been developed by the labours, by the self-sacrifice of the profession. As previously stated, it may be said that in this country everything is endowed except medical colleges, schools for teaching medicine. Yes, all financial responsibilities have been and are assumed by the faculties, by men who give every hour not devoted to "earning the guinea" to college work, and in most instances with pecuniary reward. It is only recently that the wise, the generous, the favourites of fortune, and a few of the States, have conceived the idea of endowing medical schools, institutions where medicine and surgery can be cultivated without the embarrassments of financial responsibility. In the presence of such facts the work of the grumbler seems, indeed, ungracious.

In our metropolitan colleges, every physician may feel a just pride. Their graduates, most of them, will compare favourably with those educated anywhere on this earth.

The accomplished Dr. Senn, after a liberal experience with foreign schools, said: "There is no question in my mind that the average American student learns more in one month than the average German student in three. He learns more, not because he has better teachers or better facilities, but he makes better use of his time. I am satisfied that in our last graduating class I had at least a dozen students, who, after studying three years, would pass a brilliant examination in any English or German university. They would have felt at home, even in a dress coat in Volkmann's Klinick, passing their final examination."

Provincial schools do praiseworthy, yes, thorough work in training young men, not only in rudimentary branches, but in practical, clinical studies. Many supplement these by hospital attendance in the great cities, and by post-graduate courses. It is gratifying to know that these organizations are being established in all of the great medical centres.

The advance in medical education is again most distinctly pronounced by a remark recently made by one of our distinguished fellows, an American-bred physician, of whose fame we are all justly proud. In a conversation, Dr. Batty said: "When I began the practice thirty years ago, there was scarcely a graduate within fifty miles of my residence; now, however, there is hardly a practitioner in the same territory who is not a graduate, and, year after year, a portion of our young men leave home to avail themselves of clinical advantages, to attend post-graduate instruction." Could anyone show more forcibly the conservative and steady growth of medical culture.

HAVE MEDICAL COLLEGES INCREASED TOO RAPIDLY?

Should they be established in small cities where clinical material is limited, where it must be comparatively scarce? Before answering this, it may be well to reflect upon the proposition, that in our own country, as well as elsewhere, great achievements have often been made in the Provinces and not always under the shadow of the Universities. One of the great operations waited for years for a metropolitan disciple—one to take it up—and that too, long after the provinces, at home and abroad, had demonstrated its vital utility, its claim upon the scientific and skilful surgeon.

As our population increased from three to sixty-five millions, the demands for medical men were great—colleges increased necessarily. Have they multiplied in undue proportion?

In answering this question, I beg again to quote from my beloved master, Samuel D. Gross, to whom this question had been put. After mature deliberation, he said: "Our colleges are not annually graduating one physician for each county in the States and Territories. This is certainly not exceeding the demand." A considerable proportion of those who graduate never enter the ranks—death and desertion claim a large share. It would simply be impossible for the metropolitan schools to graduate all required.

For the introduction of young gentlemen into the profession, there is mutual responsibility between teachers and preceptors. In very truth it may be said that colleges do their duty, their very best, with the students furnished by the preceptors. Give us liberally-educated young gentlemen, and we will furnish graduates worthy of the degree. Medical colleges, however, do not make the physician; they merely furnish the foundation work; the individual must do the balance. In no place is evolution so marked—the fittest will and should survive.

LABORATORY WORK.

Huxley says:—"The microscope extends the realm of pathological anatomy to the limits of the invisible world." "The intimate alliance between morphology and medicine has made the natural history of disease attain a remarkable degree of perfection."

Dr. George M. Sternberg, the distinguished pathologist, recently connected with the Smithsonian Institution, in referring to some of the laboratories established in this country for the study of pathogenic micro-organisms, says:—"It is no longer necessary to go abroad for instruction in this department of science since the laboratory of Professor Welsh, in Baltimore, and the Hoagland Laboratory, in Brooklyn, afford facilities which are unsurpassed by any of the laboratories of the old world."

Indeed, it may be said that provisions for the study of pathogenic micro-organisms are established in most of the leading schools of this country—in New York, Philadelphia, Boston, Baltimore, and the cities of the West and South. You will pardon me for mentioning some of the investigators. John Hopkins' University has for its Director, Prof. William Welsh. The Hoagland Laboratory, of Brooklyn, New York, established through the generosity of Dr. C. N. Hoagland, has been built and equipped in the most complete

manner for research work in bacteriology and experimental pathology. Prof. George M. Sternberg is to be the director of this advanced institution.

At the University of South Carolina, Dr. Meade Bolton, who has had the best of training at Berlin and Göttingen, is at the head of a laboratory. Dr. H. C. Ernest has the direction of a bacteriological laboratory in connection with the Harvard School of Medicine. Prof. James T. Whitaker, who had the honour of being the first American student of Robert Koch, demonstrated, at Cincinnati, in 1882, the tubercle bacillus, after a lecture upon the subject before the Philadelphia Academy of Medicine. In 1887 the Medical College of Ohio imported a complete outfit for bacteriologic study. The conductors of the laboratory, Drs. Rachford, Cameron and Freeman, during the first course, had the opportunity of doing some good work in the discovery of the typhoid bacilli in the reservoir supplied from the Ohio river, then at a very low stage. The discovery led to the general adoption in the city, as advised by leading physicians, of boiling all drinking water, a plan which undoubtedly limited the spread of the disease.

Among others may be mentioned Dr. Prudden, of the College of Physicians and Surgeons, of New York; Dr. Geo. A. Kemp, of Brooklyn; Dr. Mall, of Baltimore; Dr. Booker of the same city; and Dr. Frank S. Billings, of Lincoln, Nebraska. One of the earliest, most accomplished and accurate cultivators of micro-organisms, is Dr. James E. Reeves, of Chattanooga. His technique is singularly beautiful. Many of his preparations are to be found in the National Museum.

Dr. Victor C. Vaughan and Dr. Heneage Gibbs, conduct laboratory work at Ann Arbor. The University of Pennsylvania has at the head of its laboratory Dr. John Guiteras, a Pathologist who has distinguished himself in the study of the origin and spread of yellow fever.

Thus it will be seen that in all parts of our country—East, West, North, and South—laboratories are being established for original work.

HISTORY OF MEDICAL TEACHING IN THIS COUNTRY.

A brief review of medical teaching in this country will be pardoned—it may be profitable—it will certainly illume the present, and may be somewhat of interest to the future.

The first medical lectures were delivered by Dr. John Morgan and William Shippen, in 1767, in Philadelphia. Dr. Rush and Dr. Physic soon after participated, and in 1768 the medical department of the University of Pennsylvania was organised; that great school which is steadily advancing to the highest station. Philadelphia was a small, provincial city at that time; now she is only second to the great metropolis in numerical strength, but second to none in the thorough equipment of her medical schools.

Contemporaneous with Philadelphia, an organisation was projected for medical instruction in New York. In 1767, the first steps were taken which resulted in the school ever since known as the "College of Physicians and Surgeons," one which challenges the confidence of all. The medical colleges of New York, endowed, not by government, but by her public spirited citizens, have won the honours which they wear so well.

In 1785, the first school was organised in Boston. The chairs were four, and the session four months. Harvard is the outgrowth of this humble beginning of that provincial faculty. In 1800, the first medical instruction was given in Baltimore; since then, the schools of Maryland have occupied a deservedly high position. Recently one of her citizens made an endowment by which the "John Hopkins University" will be equipped for the most thorough work, experimental work, laboratory studies, a range and grade of investigations *en report* with the spirit of the times. This great benefactor has also given to Baltimore one of the most completely equipped hospitals to be found on this earth.

The great Mississippi Valley was yet unknown, but soon after the close of the Revolution, emigration began, and as early as 1799, Dr. Samuel Brown organised the medical department of Transylvania University. Dr. Benjamin Dudley effected a reorganisation in 1819. This school, after many prosperous years, having graduated men who acquired distinction at home and abroad was transferred, or rather, most of the faculty removed to Louisville, when and where the University of Louisville was founded.

During the early part of the century, medical schools were organised in several of the Eastern States, usually under State or Church patronage. Most of them exist to-day. Some of the most distinguished men in our profession have been associated with these institutions.

As the West and South were peopled, medical schools were established in cities and promising towns. As early as 1819, Dr. Daniel Drake secured the charter of the Medical College of Ohio, and it was legally connected with the City Hospital. The faculty constituted the hospital staff, the members of which were required to give clinical lectures—the first forward step on the continent, in blending didactic with clinical instruction. The physicians in South Carolina began medical teaching in 1823, and those of Louisiana in 1835. In both of these states schools of high character have been maintained.

In closing this very brief review of our colleges, metropolitan and provincial, I think it may be said that year after year the standard of the doctorate is being elevated, preliminary examinations and graded courses are being adopted; the smaller schools, to which blame is most attached, whether justly or not, with a disregard of self-interest seldom seen, are yearly reducing the size of their classes by insisting upon higher preliminary education, by extending the curriculum, and by graded instruction.

MEDICAL JOURNALS.

Medical journals, metropolitan and provincial, are the heralds, the vanguards of medical progress, the exponents of professional culture. They are closely associated with the colleges in education, and in post graduate instruction. In them appear the best thoughts of the best men; they constitute the great forum of intellectual combat; upon pages pretension is analysed and estimated, and worth recognised; that which is new or original is endorsed, or rather encouraged; it is only the plan, the original investigation which is endorsed; the results, the conclusion must be subject to the crucible of test and trial.

The London *Lancet* and the *American Journal of the Medical Sciences* were almost contemporaries—who can over-estimate their value—their influence in medical progress. While our journals, both metropolitan and provincial, are freighted with the best thoughts of the best men, yet, it must be confessed, that trash and light material—very light material—may be found in all, but the reader, nevertheless,

will find much that is not worthless. The *Journal* of this association has won its way to its present high position by its dignified course and its essentially scientific character; but has it reached its full usefulness? A learned and distinguished author, and a highly prized fellow of our association, at my suggestion, gives his views upon this question. Dr. Comegys says: "The undertaking, seven years ago, to establish a weekly journal, was a happy conception, and has been carried on as successfully as the resources of the Association would admit. To Dr. N. S. Davis unstinted praise is due; proportionate praise is also due to the Board of Directors with whom he has been associated.

"A large number of the members believe that it is entirely feasible to enlarge the journal, and give to it increased capacity for usefulness; indeed, that it should be made more fully capable, as the organ of the Association, to assert and maintain the dignity and power of the medical profession as one of the greatest factors in civil life; that to it society must ultimately turn, to find, not only the resource to assuage the distress arising from the diseases and accidents of life, but as to its protection from all those evils that fill the land with apprehension of desolation and ruin.

"We know to what an immense extent we can stop the approach of the pestilences that desolate lands and which menace, through the paths of commerce, the whole area of civilisation. We know what we can do to improve the homes and places of labour of the lower and toiling classes of cities and other crowded centres of population. There is nothing, indeed, connected with our own social State, which the medical profession should not supervise and which it should not have the power to control. A great organ is necessary to enlighten, strengthen, and lead the profession in all directions to bring to bear its beneficent agency for the correction of the terrible evils of society.

"Such a journal must be made encyclopædic in character, in which can be found the proceedings of distinguished societies of this country and of Europe, the work of the chief actors of medical progress in all parts of the world. Twelve thousand subscribers would give $60,000, this would insure $40,000 from advertisements, making an income of $100,000, which would sustain one of the grandest journals in the world.

The *British Medical Journal* in fifty years has 14,000 subscribers, and an income of $125,000. May we not hope to reach this, and when we do, who can compass the good which the American Medical Association will accomplish?"

THE MEDICAL AND SURGICAL LIBRARY AND MUSEUM AT WASHINGTON.

Another important factor in professional culture is the great Library and Museum at Washington, evoked by the efforts of an American bred physician, John S. Billings. The Library of the Surgeon-General's office of the army now contains 92,000 volumes, and 137,000 pamphlets, being the largest collection of medical literature in the world, and it is not only the largest, but the most useful. This is because it has an index catalogue, which not only shows what the library has of the works of any author, but for any given subject, indicates all the original articles in journals and transactions, as well as the books and pamphlets which relate to it, and thus forms a medical bibliography which saves an enormous amount of time and labour to those engaged in medical literary research. This catalogue is being published at the rate of one volume a year; nine volumes have been issued, and six more will complete the work. The Army Medical Museum is a great pathological school, and now contains over 15,000 specimens, being one of the eight largest museums in the world, and richer than any other in illustrations of military medicine and surgery. This library and museum are national in scope and character. They have, at least, been securely placed in a fire-proof building well adapted to their needs, thanks to the efforts of the medical profession, and we should see to it that they are maintained and increased to the highest degree of completeness and efficiency.

The medical profession asks very little of the General Government, but it does ask that these two institutions shall be made as useful as possible. The number of copies of the index catalogue which Congress authorises to be published is hardly sufficient to meet the demand, and the repeated requests for authority to publish an illustrated catalogue of the museum for distribution to the profession have not yet received any attention from Congress, and it is time we took the matter in hand. When we, who are the family physicians of our senators and members, say to them that is a thing that ought to be done and must be done, it is pretty certain that it will be done. There is nothing that will do more to promote higher medical education, to stimulate research, and to crown American medicine with honour, than to give ample means to this great library and museum to obtain materials and to publish widely the results.

MEDICAL AND SURGICAL HISTORY OF THE WAR.

This matchless record of military medicine and surgery is a marked testimony to the profession of our land. Let us for a moment compare it with similar work elsewhere. After the great Crimean war was over, its experiences collected, weighed, and analysed, how strange in the light of present surgery, and in what contrast with the lessons taught in our great conflict, is the record of McLeod upon one vital operation—trephining for fractures of the skull. In his "Notes on the Surgery of the Crimean War," that distinguished gentleman says:

"If any patients were lost from not having been operated upon, I never saw any of them, but I do know of some patients who died because they were subjected to operation."

And what a fearful commentary upon military surgery of that campaign McLeod makes when he writes:

"Thus it would seem as if severe fatigue, irregular, and, it might be, intemperate diet, are less injurious to men with fracture of the skull than the probings, pickings, and trephinings which form the more orthodox and approved practice."

It may be truly said that the judicious use of trephine during the conflict between the States, supplemented after the war by American surgeons, especially by one of our fellows, Prof. W. T. Briggs, led up, led surely, safely and steadily, to the achievements of Victor Horsely, the master of us all in brain surgery.

MEDICAL SOCIETIES.

Our medical societies, local and national, are great factors in professional progress. Not alone are they valuable for their social opportunities, but in and through them a vast amount of valuable matter is presented.

MEDICAL LITERATURE.

Had Sidney Smith been a physician and given to reading, he would not, even in 1850, have asked the questions: "Who reads an American book?" "What does the world owe to American physicians and surgeons?"

This reverend gentleman, this famous critic, could not have heard of Ephraim McDowell, whose brief paper, detailing his first three cases of ovariotomy, published in "The Philadelphia Repertory," in 1817, was of more value, did more for the conservation of human life than a score of ordinary publications. Our first half-century may be poor in books, but it abounded in strong, brave, conscientious and devoted men, men who, with the most limited resources, accomplished the grandest results. They compelled success because they deserved it. The ink was hardly dry upon that cynical pen when anæsthesia was presented by the profession so poor, as he supposed, in valuable works.

But what country or age can match, in great contributions to the relief of the suffering, McDowell, Sims, Bigelow, Sayre, Batty, and Emmett, and that trinity of men—Wells, Morton, and Jackson—who gave anæsthesia to the world. Think of anæsthesia and of its influence upon the progress of medicine and surgery. But yesterday a writer in the London *Lancet* gave a graphic history of its reception in London; how the great Liston, having a patient who could not nerve himself up to the point of consenting to have a limb amputated for strumous disease of the knee-joint, decided that, "if the insensibility could be insured and maintained for one minute, he would amputate.,' Reflect for a moment on the hesitancy of the great surgeon of University College Hospital, as he stood by the side of that patient; he could hardly believe the novel report as it came over the sea. Willing and anxious as he was to operate, he hesitated to urge the poor patient to make the experiment—experiment it then was. In a week, however, it was legitimate practice all over the world.

The heart of every American physician is filled with thankfulness when he remembers that in the Providence of God this great boon to humanity was vouchsafed to his country. The very ground upon which stands Massachusetts Hospital is sacred to us all. Associated with the discoverers must ever be the name of Dr. Hayward, who performed the first operation under the strange letheon. Previous to this, operative surgery was slow, tedious, and almost cruel. Contrast it to-day with what it was previous to 1847. What grand strides it has made under the direct support of anæsthesia and its almost equal co-labourer, antisepsis; the great cavities are invaded, and invaded safely; the abdomen has become a familiar field; and who can forecast the surgery of the brain?

Since Emmett's operation we hear no more, neither in this country nor abroad—neither in London nor Berlin, neither in Paris nor Vienna—of that culmination, that *ultima thule* of ignorance, "ulceration of the os." What a disgrace that term was to the surgery of the world! The ignorance in diagnosis was only surpassed by the cruel treatment which it evoked, the application of caustics to the tender everted membrane of the cervical canal.

Has the operation, Bigelow's litholapaxy, the crushing and evacuation of a stone at one sitting, been truly estimated? Its adoption in one celebrated case might have changed the destinies of Europe. Previous to Bigelow, lithotrity was an uncertain, and in most hands, a cruel operation—"Crush all possible at a short sitting, and allow the fragments to pass *via naturalis*." Bigelow realised that if anæsthesia is safe for two minutes, it is safe for two hours or more; hence, he said, "Crush it at once, and evacuate the bladder by an aspirator." The operation, in proper cases, is as practical as the description is brief and efficient.

The accomplished Edmund Owen, M.B., F.R.C.S., upon calculus, says: "With rare exceptions only two operations are now practised—suprapubic lithotomy and crushing, with evacuation at a single sitting." A high compliment from an eminent authority.

The story of Ephraim McDowell, though so often repeated, humanity never tires of hearing. To us he belongs, and to us only; we cannot share his fame with another; we would not if we could. Who can measure the relief which his operation has bestowed upon suffering woman? Not only woman, for his was the genius which opened the way for laparotomy in both sexes.

CLOUDS.

What has been accomplished by the profession in this country, self-reliant, and as we have heretofore said, without governmental or social support, is certainly worthy of congratulation, and gives ground for hopes of a rosy-hued future; but, alas! there are some dark clouds to be seen—some spots on our sun of promise! Have we inherent defects in our organic law—our *esprit de corps?*

Upon the face of our promising future some omens of evil appear, indications which look not up but down, not forward but backward, not to the elevation but rather to the degradation of our profession. Heretofore we were an organisation into which no species of fraud could enter; pretension, ignorant pretension, stopped at the door. No *ism* or *pathy* was admitted; something more than a diploma, "a legal diploma," was required—a clean bill of conduct, free from false assumption, assumption of universal knowledge, of specific remedies, of imaginary potencies; in fact, of all shams and false claims, a guild in which there was the greatest freedom for the truth, the largest liberty for the right. No vendor of secret remedies was admitted, because of the ignorant presumption in which they were conceived and propagated; but, alas, that we should have fallen upon the evil times when "patented processes" are attempted, when "processes" of valuable remedies are kept secret. These remedies with "patent processes" are in daily use. This is one of the dark spots in the picture. It came in with the "legally qualified practitioner." What is antipyrin, antifebrin, salol, sulfonal? The reliant patient may well propound such questions. Who can answer them? Are we relegated at one fell move back into outer darkness, the associates of vendors of "secret remedies," of patented processes?" What higher is a "patented processes" than a "patented nostrum?" The profession was never so low as to countenance the latter; but have we not, in these latter days, become propagandists of patented and, therefore, secret processes?

LAWS FOR THE REGULATION OF THE PRACTICE OF MEDICINE.

It may be asked, has the standard of professional excellence been raised by laws enacted in many of the States for the regulation of the practice of medicine?

These laws banish the poor creatures without diplomas, but make respectable, *quasi*-respectable, all who have so-called diplomas from whatever source. Shams and pre-

tenders are in this way "legally," and claim whatever protection and recognition that term may give or imply. A chartered institution, in most of the States, represents a formal application for incorporation to a Secretary of State, the signature of that officer, and nothing more. The process of graduating from such—the faculty often consisting of but a single person, or a man and his wife—would hardly be called a farce; the subject is too serious. "Legally qualified!" think of it; and yet this legally qualified creature will claim and expect to meet the highest and the purest. Is this an advance upon the requirements of the Code, the morals and *esprite de corps* of which have never been questioned? What has been the effect of these diplomas? Let any candid man answer. Have they not tended to make vice and presumptuous ignorance respectable? Let us be true to ourselves; pitch cannot be touched without defilement. Our profession must be kept pure or else it will degenerate and sink to the level of a trade.

In State Boards of Health, by the side of physicians, we find these "legally qualified" practitioners. Where lies the responsibility? It is with us? Our self-examination on this subject should be searching. If we have failed in our duties to humanity, let us be swift to acknowledge it, and be still more eager to correct our error.

The presence of this body of professional gentlemen, representing our entire country, furnishes sufficient argument for the existence of a national organisation, one embracing the virtue and strength of the profession, one to which all questions should be referred for just and final decision. Questions will arise, differences of opinion will occur between honest men. We must have some tribunal, some body, to which these questions, these differences of opinion, can be relegated for solution. The golden rule is a principle, not a law; it cannot interpret itself. Its application to life in detail must be defined. In this respect we are like other men and other organisations. Our *morale*, however, is higher; it has a zeal, a spirit, a hope and confidence peculiarly our own. If we would have our organisation pure, we should make it strong—strong enough to eliminate all that is not true or truthful. We are mortals, not transcendentalists. We cannot live as the commune. We must have law; remembering always that they are not made for the righteous, but for the sinner. "They that be whole need not a physician, but they that are sick." I will not attempt to defend the ethics of our profession. It would be a poor compliment to your intelllgence, to your manhood; for there is not a clause in our Code which a gentleman could not cheerfully obey. Organise whatever we may please: associations of specialists, of physicians, of surgeon; academies of physicians; congresses of physicians and surgeon; but let us not lose our loyalty to this parent association. Projected almost half a century ago, when medical societies were few, it has annually convened—in the north, in the south, in the east, and in the far west, on the Pacific shore. If you will examine its yearly roster, you will find that it embraced the best and the wisest. Almost all who were present at the beginning are at rest; their places have been filled by worthy men. Thus yearly new life—new men being added—this Association cannot grow old.

"When a people hold their lives and property as nothing, the enemy has already suffered defeat." So too, when virtue will not compromise with vice, the victory, although it may be long delayed, will surely come. Of the American Medical Association, let us unite in saying, *esto perpetua.*

Reviews.

The Diseases of Children, Medical and Surgical. By Henry Ashby, M.D. Lond., M.R.C.P., Physician to the General Hospital for Sick Children, Manchester, etc.; and G. A. Wright, B.A., M.B. Oxon., F.R.C.S. Eng., Assistant-Surgeon to the Manchester Royal Infirmary, and Surgeon to the Children's Hospital. London: Longmans, Green and Co. 1889.

This convenient octavo volume of 681 pages, well illustrated, and with a very complete index, deserves early notice, as supplying in a very complete manner the want long felt of a comprehensive treatise on the diseases of childhood that should bring together the various morbid conditions peculiar to or chiefly found in infants and children, written from a practical point of view, with a fair exposition of modern pathology. The scope and object of the book is set forth jointly by the authors in a short preface, as based on an experience of nearly ten years at the General Hospital for Sick Children, Manchester, where some 1,200 in-patients and some 10,000 out-patients are annually treated, and that during the whole time material has been collected, both at the Children's Hospital and at the Royal Infirmary, for the purpose in hand. The original feature of the book is that it is written conjointly by a physician and a surgeon. It will be useful, we think, to more than senior students and junior medical practitioners, "and it is at least based on experience, and is not a mere compilation." Full acknowledgment is given for the aid received in the course of the undertaking, and last, but not least, to Messrs. Longmans. The work is highly creditable to the Manchester medical school, and no doubt will in every way be advantageous to authors and publishers.

The work is divided into thirty-nine chapters, of which the first three are very advisedly devoted to the physiology and hygiene of infancy, with one on the accidents of birth. Diseases of the digestive system occupy seven chapters, one of these dealing with malformations. The respiratory organs claim three chapters, in which questions of tracheotomy and paracentesis thoracis, presumably from the surgical pen, are so much parts of the medical subject as to seem integral parts of treatment. Two chapters on the specific fevers, and two on the diseases of the circulatory system, are, except the last on nævi, chiefly medical. There are three chapters on general diseases, in which both authors are concerned. The five chapters on diseases of the nervous system are among the most interesting, with the latest information on the great advances recently made in this direction. The importance of early surgical interference in preventing the deformities likely to follow upon infantile paralysis is well illustrated. A section on surgical treatment of cerebral lesions affords another instance of how aptly the combination of surgical with medical details comes in. After two chapters on diseases of the genito-urinary system, where both authors are represented, come ten chapters chiefly surgical, but admitting of much medical comment in the diseases of the joints and spine where specific general diseases are concerned. One chapter of nearly twenty pages deals with diseases of the skin. There is also a chapter on injuries, one on anæsthetics, and an appendix dealing with the preparation of articles useful in nursing, and giving some valuable remarks on therapeutical agents.

Numerous well-executed illustrations are judiciously placed throughout the book, chiefly, of course, in the surgical chapters, but there are some dozen of a mixed character, and eighteen temperature charts in the more strictly medical part of the work. The large experience of Dr. Ashby in the management of the common infectious fevers, and his well-known accuracy of observation induces one to turn first to the specific fevers (pp. 211-269), where it is satisfactory to find so much of what is interesting, and almost all it is important to know of these popular plagues, brought within so compact a compass. A preliminary page on fever in children is perhaps too concise, as where small-pox and typhus are put with measles and typhoid, among diseases in which the temperature is gradually raised, "taking several days to reach its greatest elevation;" yet it introduces a caution applicable to all that "a diagnosis cannot be made for a few days till characteristic symptoms develop." We are here reminded of the sudden form of otitis, pneumonia, sunstroke, and some forms of diarrhœa; also of how convulsions in infants frequently take the place of the severe pain or delirium that mark the ingress of fever in older children, and to be on our guard in diagnosing cerebral disease when high temperature of the blood or a specific poison may cause cerebral symptoms, the brain itself being normal. The incubation period of each of the specific fevers, and the duration of infection after the diseases appear, receives special notice in the section appropriated to each. The short incubation of scarlet fever and its long period of infectiveness is very clearly given. The long incubation of rubella (a name for *rötheln*, worthy of general adoption), and the short persistence of its infection, given at three weeks, bring the alliance of this disease to rubeola, or true measles, into close relationship; rubella is shown to be distinct from both scarlet fever and from measles. Whooping cough has a long incubation assigned to it, chiefly on account of the delay in the development of characteristic symptoms; as infection will persist while either cough or whoop remain, the infectious period must be very variable, mostly six weeks—often much longer. A curious instance is given under varicella, of how infection persisted five weeks in a case where a subsequent psoriasis delayed the completion of the chicken-pox cicatrix. No doubt it is a good rule in both variola and varicella, that not only should the crusts have separated, but the cicatrises be sound before a convalescent is allowed to mix with the susceptible; but we have often seen this rule departed from, even as early as ten days after chicken-pox without ill results, and should be disposed to put the termination of infection closer to the subsidence of the fever in most cases of this disease than in any other. This one case of Dr. Ashby's is, however, quite sufficient to "give us pause."

We dwell on this one point touched upon in these sections, because it is impossible to note many with anything like adequate fulness. To retrace our steps, we will extract a few words from the treatment of whooping cough. After a caution as to the necessity for guarding against cold, and the risks of intensifying the catarrhal stage of the disease, there is a line or two in favour of the two-room treatment, and the following: "There can be no doubt that the attack is rendered more intense and protracted by rebreathing the infection, as well as by a fresh catarrh being set up. Except in the warmest weather, the patient should be confined to his rooms in the house the whole time the disease lasts, as long as any 'whooping' is present, and as long as râles or rhonchi are heard in the chest. Too great care cannot be exercised here; the bronchial tubes and lungs remain exceedingly sensitive to cold, and many severe attacks of pleuro-pneumonia have resulted both in old and young from a chill caught at out-door games, or from having gone to the seaside for change of air. Children are much better at home until well over the attack, not only for the sake of others, but for themselves; and the pleadings of the friends for change of air must be sternly resisted until six weeks, at least, from the commencement of the whooping" (p. 267). No reference is made to second attacks. Protection is probably secured for some years by a first attack, and the author commences by saying, "There is no disease which is more certainly infectious than whooping-cough." To measles a high degree of infectiousness in the early stage is ascribed. From an experience apparently less extensive than the author has of scarlet fever and whooping-cough he ventures a statement at variance with most authorities—that "second attacks of true measles are not uncommon" (p. 228). He also, under the heading "Treatment," probably follows some other writer in admitting antimony and aconite as possibly useful, though under restrictions, in the earlier stages of this self-limited eruptive disease. Scarlet fever is more fully and very ably described. The complications and sequelæ are separately treated of and well given, as is the short section on "Morbid Anatomy." It is here noted that the micro-organisms found in the kidney are similar to those of septicæmia. The large number of cases of scarlet fever coming under the author's observation leads him to the conclusion—"second attacks are rare." Relapses or reinfections are barely allowed for, and some instances are considered doubtful (p. 213).

Mr. Wright's work on "Hip Disease in Childhood" has already brought him favourably before the medical profession. We have only to turn to the commencement of his chapter on this subject in the present volume to see how intimately it is associated with tuberculosis and the deposit of tubercle elsewhere, and must defer fuller notice of his work until a more systematic review of the book from beginning to end can be completed. First, we must direct attention to the real importance of the opening chapter on "The Physiology of Infancy and Childhood." It is not enough for the study of the diseases of infancy to know the symptoms of special illnesses, the natural history of each, the early signs of ingress, and their after-consequences; but the normal variation of pulse, respiration, temperature, growth and weight of the child at different ages and under varying conditions, must be studied and known. Any gain in certainties of this kind, however slowly won, steadily advances the art of medicine. Here we have the rate and ratio of pulse and respiration, how they slowly alter with development, and how rapidly they revert to the infantile type under disturbing causes; then the development of other infantile powers by which we may judge of their arrest by disease, and the rate at which they advance to the normal state when the illness is over. A section on psychical phenomena (p. 8) is worthy of some additions. An infant may learn to hold up its head at two months, but it could hardly be trusted to support and balance it till three months old. At seven to nine months the child can sit up; it will soon try to support itself by a chair, and not wait for three or four months before trying to walk. Children soon learn their own ability and strength in muscle and bone. Talking is learned in the second year, but it is seldom that any account or relation of

experience can be expected before the end of the third year. The body weight—its relation to growth and the importance of the two taken together—as witness of the healthy progress of children, is very well given and insisted on. In the table of corresponding heights and weights it would seem that the rough weight, taken with the clothes on, has been followed.

Dentition, here treated of, leads us to the subject of "Hygiene and Diet of Infants and Children," and opens the following chapter, the fourth, on "Diseases of the Digestive System." The influence of rickets in checking dental development is further given at pp. 42-43, and the effects of other diseased states mentioned elsewhere, p. 353. It is pointed out that the transverse grooves on the central permanent incisors will be near the edge when caused by disturbed nutrition in early childhood, and lower down if from illness at two or three years of age. Convulsive seizures occurring in the first dentition will thus leave their marks on the second teeth, or the effects of whooping-cough or measles be seen on then, or on the first molars; yet in one place, p. 12, these defects are attributed more to a possible local stomatitis than to well-known general causes. Some remarks (p. 45) as to lancing the gums during teething deserve quotation: "Much controversy has arisen from time to time with regard to the use of the lancet, and the propriety of employing it in assisting dentition. . . If the mucous membrane over the tooth is red, swollen, and tender, and the edge of the tooth can be felt, much pain and discomfort will be spared the infant by its use. . . . . The relief afforded is due in all probability to the local loss of blood, as well as to the relief of tension in the gum. That it has been done often unnecessarily, and that many troubles are attributed to dentition that have no connection with it, is no argument against the use of the lancet in proper cases." The rules of diet given are good and sound throughout. One passage, at p. 42, is not as clear as it might be that to defer the addition of fish, fowl, or meat, to a child's food until after the first double teeth are through, is to fall into a vicious circle; for if this diet is right for a child of a year and a half old with molars, it is sooner required when they are slow to appear.

The bearing of disorders of the digestive system in early childhood on subsequent disease receives a fulness of treatment in the work before us commensurate with the importance of the subject. Not only in the seven or eight early chapters of the book, but in chapters xi. and xiii., under "Larygismus Stridulus," p. 149; again at p. 175, under "Broncho-Pneumonia;" and at p. 205, under "Chronic Tuberculosis of the Lungs;" also in the chapters on "Tuberculosis," "Rickets," and "Diseases of the Nervous System," weighty evidence of this is to be found. If the term "athrepsia," used at the beginning of chapter vi., could sink deeply into our medical nomenclature, carrying with it a full appreciation of the causes and results of a chronic gastro-intestinal catarrh in infancy, many of the dangers and anxieties of illness in childhood would be greatly lessened. The term "simple atrophy" is less applicable; it puts the result for the cause; it withdraws attention from the inter-current disturbances of health, such as the broncho-pneumonia, or diarrhœa with fever, or the nervous symptoms, though unaccompanied by fever, and attributes them to tuberculosis. Nor is the common name justified until general wasting, with persistent low temperature, and the final and irremediable atrophy of the gastro-intestinal has set in. But a disease fatal in this way to children under two years of age may begin, as the authors point out, in various ways at a later age, mostly as a chronic intestinal catarrh.

This, as stated at p. 78, "is rarely followed by an atrophic condition of the glandular apparatus of the stomach and intestines, but takes rather the form of habitual indigestion than anything else. It is, however, apt to be exceedingly chronic in its course and to be followed by various evil consequences, the most serious of which is tuberculosis of the lymphatic glands, or there is a constant state of health below par, which in itself is a source of danger." The evils resulting from chronic catarrhal affections of the mucous membranes are further insisted on as leading to tuberculosis of the mesenteric, mediastinal, or bronchial glands, or to chronic tonsillitis and enlarged glands of the strumous type; or "the symptoms of rickets become grafted on to those of a chronic catarrh of the bowels" (p. 78). The course of the disease is often intermittent; the bowels become confined, with inter-current attacks of vomiting and diarrhœa, evening fever, and night terrors, or grinding of the teeth. Subacute cases constitute what was called "infantile remittent fever" (p. 79). When mistaken for mild typhoid fever we have known it lead to a severe form of chronic obstruction of the bowel, from retained fœces in palpable masses, in a girl of five years old. We quote the section on "Diagnosis:"

"The disease most likely to be confounded with chronic intestinal catarrh is tuberculosis of the mesenteric glands, or the early stages of tubercular meningitis. During the first three or four years of life, it happens very frequently that infants or young children are thought to have 'consumption of the bowels,' because they have capricious appetites, 'pot bellies,' and have lost much flesh, when in reality they are suffering from a chronic intestinal catarrh. That the diagnosis is often difficult is only what is to be expected when it is remembered that an intestinal catarrh of more or less severity is the exciting cause of mesenteric tuberculosis; and in an advanced case, it may be quite impossible to say if a tuberculosis of the glands has supervened. Mesenteric disease is, however, much less common than simple intestinal catarrh, and is infinitely less so during the first six months of life than gastro-intestinal atrophy. Any evidence of tubercle in the lung, or enlarged veins of the surface of the abdomen, or the detection of rounded masses by palpation in the abdomen, would favour mesenteric disease. In older children the fact that those suffering from intestinal catarrh grind the teeth, are restless at night, are subject to night terrors and headaches, is sufficient for most parents to become alarmed, fearing that the child is commencing with tubercular meningitis."

Among the predisposing causes to this condition, if injudicious feeding must claim a first place, zymotic diarrhœa, as shown at p. 69, is certainly a most potent one, and may be a reason why the direct fatality of summer diarrhœa in the first half-year of infantile life so far exceeds the peril incurred from it in the second half year of age.

Before quitting this part of the subject, we will refer to the section on "Convulsions," p. 44. "It may be taken for granted that no healthy infants suffer from convulsions; those who do are either (we add *ill-fed*) rickety, or the children of neurotic parents, and inherit a tendency to nerve disturbance." A good example of how well in this book surgical detail supplements the medical treatment is seen under tonsillitis (pp. 54, 55), where tonsillar hypertrophy is shown to retard growth; a difference of several months' growth was observed "in twins, one of whom had enlarged tonsils, the lost ground being rapidly regained

after removal of the glands." We are disposed to accept the verdict of the surgeon as given here, that "the only efficient mode of treatment is by removal." As before mentioned, it is to the surgical part of the work that most of the engravings are assigned. There is one at p. 50 showing the deformity that may result from an attack of *Cancrum oris*. The complete remedy possible from a plastic operation is very properly left to the imagination. This course might have been followed at p. 472 with fig. 78—the only illustration we wish absent. Fig. 40, at p. 280, is admissible, as showing the extreme effects of nævoid growth. All the illustrations of the deformities due to rickets, and to bone and joint diseases, and to tumours, are of distinct value. In many cases we are not only told what to do, and how to do it, but the consequence of doing or not doing what is recommended is graphically put before us. In fact, the advantages resulting from the combination of medical and surgical details are manifold and obvious, and we have in one volume—open it or refer to it where we will—a most useful and thoroughly practical handbook of the diseases of children. The published price is one guinea.

(*To be continued.*)

On the Diseases of the Kidney amenable to Surgical Treatment. By David Newman, M.D., Surgeon to the Western Department (Out-patient Department); Pathologist to, and Lecturer on Pathology at the Glasgow Royal Infirmary. London: Longmans, Green & Co., 1888.

One of the results of the modern post graduate lecture development is the continuous addition of unnecessary volumes to the already over-stocked market of medical literature. The lectures themselves are probably of service to those who hear them, who may be unable to keep *au courant* with the rapid advance of medical knowledge; but the repeated publication of treatises, which are alike except in the names of authors and publishers, is much to be regretted.

Dr. Newman's volume reads rather like the work of a pathologist than a surgeon, and although the lectures are full of interesting information we venture to think that the author might well have "said his say" in less than four hundred and fifty-seven pages. The scope of the book is comprehensive to the extent that it appears to include every disease which affects the kidney, except the group known as "Bright's." Broad distinctions cannot be drawn between the medical and surgical diseases of any part, but whether kidneys, which are healthy but floating and movable, sarcomatous, carcinomatous, or angeiomatous, may be properly regarded as amenable to surgical treatment is even yet extremely questionable. The contents of the volume are arranged as six lectures. The first is devoted to malposition, with or without mobility, the latter group being treated of under the two separate divisions of movable and of floating kidney. We agree with the author that mobility is more common than is generally supposed. He gives 1.8 per cent. as the number in his own observations. The various views and theories are discussed at great length, great use having been made of Landau's monograph on the subject. Dr. Newman speaks more favourably of the permanent benefits of nephrorraphy than our own experience of the operation would justify.

In lecture two, on general symptomatology, attention is limited to the presence of blood or pus in the urine, and the existence of pain or swelling in the renal region. These symptoms are carefully considered, and the chapter is an extremely interesting and valuable one.

Section three deals with diseases characterised by accumulation of non-inflammatory fluid. We doubt the wisdom of including cases of dilated ureters, sequential to urethral stricture, enlarged prostate, etc., in the class of "acquired hydronephrosis." They are so entirely different from those large cystic dilatations familiar to us as "hydronephrosis," which are usually unilateral, and which only are "amenable to surgical treatment." The author advocates treatment by lumbar incision and drainage, with subsequent nephrectomy when necessary. Carefully prepared statistical tables of all published operations are affixed to each chapter, and form one of the most valuable features of the volume.

Chapter four is devoted to diseases characterised by simple inflammatory changes, with accumulation of inflammatory products, and contains more than a hundred pages. It treats of every variety of suppurative disease, both within and around the organ, as well as of renal calculus. It is discursive in its arrangement, tedious in its length, and contains much which may be found in elementary text-books of medicine and surgery.

The fifth lecture opens with a long discussion on the general question of tuberculosis, which would be more in place in a manual of pathology. It is still an open question whether renal tuberculosis is amenable to surgical treatment. The latter part of this lecture takes up injuries and their treatment, and is of much more practical use.

The final chapter calls attention to no less than twenty-four different kinds of tumour which *may* affect this organ. The kidney is, nevertheless, not very liable to be invaded by new growth at all. The author describes an original method of collecting the urine from one kidney, and figures an instrument designed by himself for this purpose. We are disappointed to find that even in his hands the results are not always encouraging.

Surgical operations are dealt with in the concluding thirty pages, and are the least satisfactory part of the whole volume. Speaking of lumbar nephro-lithotomy, he says the surgeon "should not be satisfied either that no stone exists or that nephrectomy must be performed, until he has made such an incision into the kidney as will open each of the calices." We fail to understand how any incision could be arranged so as to open "each of the calices" of kidneys, whose interiors we have especially studied with reference to this subject. If one incision is made into a calyx at the lower end of the viscus, the other calices may be examined by means of a small sound passed through the opening. The book is well got up, and is set in a type which is clear and easy to read. Jordan Lloyd.

Short Notices.

Medical Handbook of Life-Assurance, for the use of medical and other officers of companies. By John Edward Pollock, M.D., etc., and James Chisholm, Fellow of the Institute of Actuaries, etc. London: Cassell and Company.

This work will be appreciated by medical men who have to examine for insurance companies. It is a book which supplies a want.

The Provincial Medical Journal,
AUGUST, 1889.

Dr. Paul Le Gendre in the *L'Union Médicale*, June 25th, 1889, presents us with a very able summary of the latest views on the pathology and treatment of diphtheria, of which the following is an abstract. In his recent book, "Diphtheria: its Antiseptic Treatment," M. Renow characterises by four epithets the state of mind of some medical men when the treatment of diphtheria is discussed—scepticism, despair, indifference, enthusiasm; and he adds that medical men very frequently pass through all the different stages, and that diphtheria justifies all these states of mind. Dr. Le Gendre does not think that indifference can be justified, in view of a malady so frequently seen,—nay, that ardour with the struggle should be increased by the progress made in our knowledge of its etiology and pathology. The prophylaxis is singularly cleared up; we know that a microbe grows on the nasal, buccal, pharyngeal, or laryngo-bronchial mucous membrane, which is deprived at some point of its epithelium, by acute catarrhal inflammation. We know the principal biological characters of this microbe, and that it is most frequently carried—though not exclusively—by the intermediary of persons, and not by the air. According to an hypothesis of MM. Roux and Yersin, this microbe remains in certain individuals inoffensive on the bucco-pharyngeal mucous, as long as it is healthy, the pathogenic action of the microbe taking effect only when the mucous is inflamed.

The therapeutics are clear. We have to institute an antiseptic treatment of the least catarrh of the air-passages in children, to prevent the microbes from finding a resting place; to look after the naso-pharynx, and to keep the buccal cavity in a state of asepsis. We must, moreover, with perseverence carry out the complete disinfection of all places where diphtheritics are, destroy all objects which they have touched, and which cannot be conveniently sterilised. When the fundamental precepts of prophylactic antiseptics have sufficiently penetrated all the medical profession, and not merely its *elite*, the non-medical public will better regard the dangers which they now are indifferent to. The frequency of diphtheria will certainly diminish, as will, without doubt, that of tuberculosis, if medical men in treating these diseases will instruct patient as to antiseptics. Leaving prohylaxis, Dr. Le Gendre says that the recent discoveries of MM. Roux and Yersin should inspire courage in the physician, even as to its therapeutics. We know now with scientific precision that diphtheria evolves in two stages—local infection by microbes, and consecutive general intoxication by a chemical poison fabricated by the microbes on the surface of the false membrane. It is true that the first stage is short, but it always exists, and diagnosis at as early a stage as possible therefore becomes important, so as to destroy the microbes before they have time to saturate the economy with their poison. But here care is required, it is not prudent, to break up the tissue, as thereby the microbe could better enter. There are two views, one that of M. Renow, who advocates leaving the false membrane alone; and that of M. Guelpa, who pursues the microbes without mercy even into the most inaccessible places.

1. M. Renow, who wrote before the publication of the works of MM. Roux and Jersin, states in his book that when we see diphtheria the microbe has already invaded the organism, and we must seek for it in the blood. He rejects all cauterisation and meddling with the false membrane, in which he sees a precious element of diagnosis and prognosis from day to day. M. Renow does not even approve of irrigation of boric acid, introduced by Dr. Le Gendre. He proposes to treat his patients by antiseptic air, by phenic vaporisation. M. Renow keeps his patients in a temperature from 20 to 22 R., and the atmosphere is saturated with phenic acid solution, the proportion of phenic acid being calculated according to the cubic space of the room. The limit is one gramme of phenic acid per cubic metre in every twenty-four hours. The rest of the treatment comprises alimentation, tonics, sulphate of quinine, and tracheotomy in case of need. The false membrane is not touched. M. Geffrier, at the Hotel Dieu, Orleans, has tried the method, and reports in its favour. Some practitioners at Saumur have also adopted it. At Nantes M. Bonamy prefers a solution of eucalyptus. Dr. Le Gendre disputes M. Renow's view of the pathology, and avers that the microbe remains on the mucous surfaces, but that the chemical poison is diffused. He also points out the danger of phenic poisoning from this method of treatment.

2. M. Guelpa acts in a very different manner from M. Renow. He pursues the microbe with vigour into the most innermost recesses, irrigating every quarter of an hour during the day, and every half hour during the night, with a solution of perchloride of iron, five or ten per 1000. He is even in favour of preventive tracheotomy, and even of trepanation of the maxillary sinus. When diphtheria has invaded the nasal fossæ, Dr. Le Gendre does not think that the latter process will find much favour, though tracheotomy may be necessary in certain cases. There is an objection to this irrigation, as it deprives the patient of sleep; moreover, the solution of perchloride is weak, and the antiseptic properties doubtful.

The eclectic plan of treatment recommended by Jules Simon is next passed in review. M. Simon recommended every hour during the day, and three hours during the night the following solution:

Salicylic acid	0.50 to 1 gramme
Alcohol	qs. to dissolve
Glycerine	40 grammes
Infusion of eucalyptus	60 grammes.

This is applied with certain force, so as to detach any fre membrane, though without excoriating the adjacent mucous. When the membrane is thick and adherent, it is touched with equal parts of perchloride of iron and glycerine. Every two hours this plan is followed by warm irrigations

with lime water, boric solution, Vichy water, rarely with phenic acid. M. Simon also uses—according to the age of the child—gargles, pulverisation, etc., burning in the chamber tar and eucalyptus. Besides alimentation and tonics he gives internally perchloride of iron (ten to twenty drops) every twenty-four hours in grog or beef tea; for children over five years of age using cubebs and copaiba.

Dr. Le Gendre gives his own treatment, carried out at the Hospital des Enfants Malades. In 1887 he ordered the following treatment: he ordered three or four times a day the whole of the false membrane to be touched with sublimate in alcohol $\frac{1}{100}$; every two hours free irrigation, followed by pulverisation, with a saturated solution of warm boric acid, 4 to the 100. The frequency of the irrigations may be increased. In 1888 he tried the medicine recommended by M. Ch. Bouchard, swabbing the whole surface of the false membrane with the following solution:

Naphthol	5 grammes
Alcohol	5 ,,
Glycerine	100 ,,

This treatment is borne very well, and is very refreshing; there is no inflammation, and the naphthol remains adherent to the diseased surfaces, exercising its antiseptic properties. Dr. Le Gendre thinks that the phenols with camphor or oil are superior to mercurial solutions, and especially camphorated phenol. The method of M. Gaucher meets with favour. He has modified his formula:

Tartaric acid	1 gramme
Pure phenic acid	5 grammes
Alcohol @ 36	10 ,,
Camphor	15 ,,
Oil of sweet almonds	20 ,,

To obtain a clear solution dissolve with heat, with care, the phenic acid, the camphor, and the alcohol; then add the tartaric acid and the oil. This solution must be thoroughly applied morning and evening, the false membrane being removed, and the parts well touched, subsequently employing the warm saturated boric solution. Excellent results have followed the employment of M. Gaucher's method, and Dr. Le Gendre is able to testify to good results.

"The Exposure of Electricity" is the name of a pamphlet made up of the letters and articles which have appeared in the columns of the *Electrical Review*. The profession owes that journal a debt of gratitude for the manner in which it has tackled the charlatans who are living by this form of quackery. In return the profession ought to purchase the pamphlet, and circulate it in every city, town, and village—thus the advertising quack will be paid back in his own coin, and obtain a publicity he did not bargain for. With one or two exceptions the medical press has not given much assistance to the suppression of electrical quackery. This may be explained in this wise: the medical press is wearied of the subject of quackery. No sooner is one humbug exposed than another starts up. The public, we believe, like being gulled; they so readily swallow every bait offered them. The profession can hardly check the spread of quackery, and medical editors having better materials for their readers, do not care to waste the space in their papers by going over the old ground. The form of humbug adopted by the electric fraternity may strike electricians as being worthy of exposure, but it is only one form of charlatanry. Look at any advertisement sheet; read the list of quack remedies, all professing to do what the electric quack promises to do. We cannot tackle all the peripatetic disease curers, or expose their pretensions. So much in explanation of the silence of the medical press. Now for the pamphlet. The victims who are gulled by cleverly worded advertisements do not, as the author says in his preface, see the scientific organs in which are exposed the worthlessness of the goods advertised, and the charlatans flourish in spite of the efforts which are continually being made to scotch, if not to kill, the many headed hydras who prey upon suffering humanity. Since the appearance of the pamphlet by "Detector," which dealt with the museum quacks and syphilis curers, we have not read a more convincing and thorough exposure than this one. With an amount of daring, worthy of all praise, the authors have boldly tackled firms prominent in the field, and they have persisted in their attacks, though they have been threatened with law suits, threats which have ended in smoke, because the quack dreads the ordeal of law and cross-examination, which will bring out the previous history of the advertiser, and facts which are discreetly kept in the background. We are let into the secret of some portions of the inner life of electrical quackery; we are shown how the system is worked; we have letters from the dupes who have paid their three and five guineas for instruments estimated to be worth as many shillings. Electricians of repute have examined the construction of the patent belts, and have pronounced them to be worthless. The curative agency resolves itself into faith and flannel. It would be highly desirable if a test action could be brought into the courts—thus, if some one who has purchased a three guinea belt or machine would bring an action for obtaining money under false pretences. This was done, as was mentioned in the pamphlet, in the case of an individual who advertised a sewing machine which turned out to be a clever swindle. By means of the test action scientific opinion could be brought to bear upon the value of the belts and the appliances, and a serious hole would be made in the bubble. Dr. Steavenson has written very strongly in our columns on the cruel deceptions practised by the clever quacks who have taken up electricity as their bait, and we have helped as far as possible to expose this genus. If our readers desire to help on the crusade they should write for copies of the pamphlet to Mr. Jerritt, Ivy Bridge.

We published in the last number of the *Journal* a long letter from Dr. Rentoul, proposing the establishment of a complete medical service for England. It is an honest attempt to bring order out of chaos, and it is significant of the awakening of the profession to the importance of the proposals that it has been taken up by the British Medical

Association, and discussed at its branches. The industrial classes have been brought up to regard free medical advice, if not as their birthright, certainly as something they were entitled to, and they have been gratified. Hospitals, and dispensaries have been at their disposal, and free medical advice has been the order of the day. A certain number of the industrial classes, not desiring to accept free medical aid, formed themselves into clubs or combinations, and paid for medical advice, and they were comparatively liberal. They gave the surgeons who attended them 2*s.* 6*d.* a year per member, finding, at this price, medicines, appliances, etc. In certain towns, all these clubs combined, and had one medical man to whom they paid an annual stipend varying from £150 to £200 a year. The work done for this salary by some of the men who have been engaged in this service was simply slavery. The industrial classes brought up in the school of political economy have conducted all their transactions with the medical profession on the strict lines of political economy, as illustrated by the law of supply and demand. They have offered their private lodge surgeoncies at 2*s.* 6*d.* per head per annum, and there has been keen competition for these appointments; active canvassing, as in the case at Wigan, went on to secure such positions. They had numbers of applications for the medical officership of the amalgamated societies. Besides this, they could always depend, in case of need, upon the local hospital or dispensary, so that the industrial classes have had at their disposal, not only a cheap system of medical advice, but a highly efficient one. This system was supplemented by another one. The majority of the industrial classes do not belong to clubs; for this class the provident dispensary was opened, and we have now every kind of machinery to bring medical assistance within the reach of the poorest class of industrial workers. We have the shilling dispensary, and we have the sixpenny dispensary, and the wonder is with all this cheap organisation, and with all the free medical advice, how medical men are able to live. It is the boast of medicine that it is conducted on lines which are opposed to every principle of political economy. We take on our shoulders the individual relief of suffering humanity; we give our services gratuitously for the good of humanity. Once a year there is a general vote of thanks passed to the profession by the hospital governors, who for a year have been lifted up into a position over our heads, and who owe their existence as governors and philanthropists to our skill. On this one day (the annual meeting of the charities) there is a vote of thanks to the medical officers. After the annual election, the governor who gives his £1 1*s.* 0*d.* a year regards the medical officer as a kind of servant of the institution, and we believe that so far as the outside public are concerned, the governor who gives £1 1*s.* 0*d.* a year is looked upon as a much more philanthropic man than the surgeon who daily visits the hospital, and gives for a whole year that which is priceless. Surrounding the whole subject of hospital medical relief and free relief, there is a mass of contradictions; the best traditions of the profession must not be disturbed. "The poor are always with us; the poor when sick must be attended to for nothing." This is the key note to the position, and this is the work which must be carried on. The abuses which have crept in, the pauperisation which has followed from the abuses, are the incrustations which must be removed. The poor are not the industrial classes; the poor are not the people we see in the waiting rooms of our general hospitals, or occupying the beds; so that we are not running counter to the best traditions of medicine by advocating a revision of the conditions under which medical relief is at present given. The altered conditions of modern life, and the increased opulence of the working classes, must be taken into account. In considering any scheme we must also consider the interests of medical men and their families. Hitherto, the industrial classes have alone been considered. They have pointed out the way in which wages have to be kept up to such a level that the happiness of the greatest number of workers shall be preserved, and by which the weakest shall be protected. By means of trade unions they have decided that men shall work so many hours a day, and at such wages; they have in other ways limited and protected labour. In a profession we cannot adopt trade unionism, though we have every right to consider the interests of the 100,000 persons who are dependent upon medicine (this of course includes men, women, and children). The state of the medical profession, as revealed by numerous letters and articles which have appeared in the journals during the last few years, is a very alarming one. We are suffering from the effects of unfair competition. Our charity is abused; pecuniary results are inadequate. We are as willing as ever to attend the poor, but we must distinguish, and have it defined who the poor are. It is only by discussion and by free ventilation of the question that we can arrive at a satisfactory solution, and we therefore hail with satisfaction the reception given to Dr. Rentoul's scheme by the British Medical Association. Free discussion at the branches will bring medical opinion to a focus; from the branches the subject must go to the council or general association. By concerted action alone can we succeed; but at the same time, what we decide upon must be worthy of the dignity of the profession. We do not desire to overtax the industrial classes, but we certainly ask for justice, and for fair remuneration.

Some years ago, we believe somewhere about 1866, the *Pall Mall Gazette* published under the heading of "A Night in a Workhouse," by the Amateur Casual, a very sensational description of the actual state of our tramp wards. The papers created some excitement at the time, and we believe led to great reform in the condition of the refuges of the poor—the workhouse tramp wards. This system of exciting attention to our social grievances has its advantages. It is an old saying "that one half the world does not know how the other half live." By means of such descriptions by the press, the world is let into the

secrets of life in that larger world which has to live under such miserable conditions, that life is really not worth living. The cause of humanity is advanced by these exposures. The amateur casual's articles were read by thousands, to whom the name even of workhouse was hardly known; and by a few graphic paragraphs, the conditions of life for the tramping poor was at once revealed as in a picture from a camera. We do not remember reading any better description of the state of the homes of the working classes than that which has appeared recently in the columns of a Manchester Sunday paper—the *Chronicle*—and we may compare the descriptive writing for power with that of Mr. Greenwood. The condition of the houses of the Manchester workers are revealed with microscopic minuteness by an anonymous chronicler, and we would fain hope that now that the citizens of that wealthy city know that there are such rookeries in existence in Cottonopolis, some attempt will be made to sweep them away, and erect buildings in which the workers may live in decency; may grow up in health, and by increased toil give back to the community double interest for any outlay involved in the erection of new houses. It is not pleasant for a wealthy town to have this exposure, but it is childish to ignore stern facts. This *Sunday Chronicle* does not find favour with some of the press or the laity, but it must find support from all who are really interested in the spread of sanitation, and in the elevation of our working class population. Those who know anything of the inner working of some sanitary committees—who know the class on these committees—are aware that there is a *vis inertiæ* to be overcome; oftentimes a vice, too—the vice of wanting too much interest for rotten property, so that self-interest comes in, and sanitary reform is prevented. Medical officers of health may recommend alterations in premises, new closets, new drainage, the destruction of unhealthy dwellings, but these recommendations are shelved—in the interests of property owners. The indignant and independent journalist, who with pen and pencil has described Manchester as it is, should have had a vote of thanks passed to him by the Town Council for doing the sanitary work of the town in such an efficient way; for exposing the sore places, in order to heal them; and from the working classes he should have some more solid recognition. There may be in these articles touches of sensationalism, and here and there the colours may be laid on with too heavy a hand, but the sun pictures which have accompanied the articles cannot be accused of exaggeration, and we have in these sketches, and in the measurements which accompany them, a text which requires no comment. Tenement property pays a much higher rate of interest than good property. Nothing is spent on it, and so long as the walls hold together, and there is a decent external appearance, there is no outcry. The property owner who lets houses at £40, £50, or £100 a year has many calls upon him, and he has to set his house in order before he lets it. The tenement house as it existed in London, and as it still exists in many of our provincial towns, so faithfully described in the papers we allude to, is a blot upon civilisation. The wonder is that the working classes themselves are so apathetic about the condition of their homes, and that the working class leaders have given so little attention to it. Any demagogue could at once get up a large meeting to denounce the House of Lords; to disestablish the State Church; to protest against Bulgarian atrocities, but we very much question whether he could secure an audience to consider what is of more passing and vital importance—viz., the housing of the working class. Charles Lamb has written one of his best essays on homes that are no homes; all that is best in life is crushed out by the environment in which men, women and children live in our crowded cities and towns. The home should be the centre of the nation's life; it is the cradle of our people; but in such houses as exist, which are called homes, nothing but degradation of the people can result. It is no wonder that we have so many decrepid and deformed children; that we have so much tuberculosis; that we have so much disease, and crime, and misery—nay, the wonder is that we have not more; and that we have such a high death-rate, when people have to live under conditions which set at defiance the laws of nature. The remedy rests with the people themselves, and we cannot free ourselves of responsibility by throwing the blame on the corporate bodies who rule and manage municipal affairs. As soon as the people want good homes they will have them. The magnificent municipal buildings, the art gallery, the parks, the theatres, the churches, the palace of recreation, are all in their way useful and creditable; but unless the majority of the people are properly housed, all these indications of wealth and progress are but as the guilding on the "whited sepulchre."

Annotations.

"Forsan et hæc olim meminisse juvabit."

BRITISH NURSES' ASSOCIATION.

The British Nurses' Association, established with very excellent aims, has met with considerable opposition, but into the merits of the dispute we do not at present intend to enter; we desire only to draw attention to the amenities of medical journalism as illustrated even at the present day. That there should be difference of opinion on all professional subjects is but natural, and it is by difference of opinion that progress takes place. It is too late in the day for any journal to say, "I am Sir Oracle, and when I open my mouth let no dog bark." The days of authority in medicine are over: each question must stand on its own merits: the personality of individuals must be left out. There was a time when we were, in a certain measure, influenced by the personal equation of individual teachers whereby the advance of medicine was stayed; but we have emerged from the stage of babyhood, and we cannot any

longer be dragged at the wheels of personal authority. Miss Lückes, Dr. Sansome, Mr. Burdett, and others, do not approve of the British Nurses' Association, even though it is supported by Princess Christian and other persons held in high esteem; they are perfectly justified in expressing their views, and in criticising the proposals which affect the nursing profession, as well as the medical. Boycotting is out of place in the scientific world, though, judging by certain editorials we have read recently in connection with this controversy, it would seem to find favour with a journal which at one time had a great influence with the profession. The boycott would be very useful as a one-sided measure when your opponents disagree with you; cease to subscribe to a paper which does not favour your own views, and you will narrow your mind and obtain a truimph—for your own views.

THE MEDICAL SICK AND BENEFIT SOCIETY.

We would direct attention to the Sixth Annual Report of this Society, and we trust that the report will be read in full by the younger members of the profession. The first quinquennial valuation made by Mr. Neison shows the financial position of the society, and the management is to be congratulated upon the handsome surplus found to exist at so early a period in the history of the organization. The invested capital amounts to £32,247 12*s.* 1*d.*, and the total fund to £32,561 13*s.*, so that it will be seen that most of the capital is invested, and invested in securities of the soundest nature. The increase in the funds may be seen from the following table:

Date.	*Amount of Reserves.*				*Increase on Years.*			
	£	*s.*	*d.*		£	*s.*	*d.*	
June 30, 1884	1,434	16	3	.....	—			
June 30, 1885	6,433	0	10	.....	4,998	4	7	
June 30, 1886	11,330	7	6	.....	4,897	6	8	
June 30, 1887	17,645	3	0	.....	6,314	15	6	
June 30, 1888	24,694	17	9	.....	7,049	14	9	
June 30, 1889	32,561	13	0	.....	7,866	15	3	

The number of members at the close of the financial year was 985, and there have been only two deaths during the year. This did not touch the assurance fund, as these two members were only insured for sickness. The expenses of management have been under five per cent. Payments were made during the year to 130 members for 636 weeks and six days' illness, and the illnesses have been very diverse in character. The secretary, Mr. Radley, 6, Wynn Road, will give all information.

CAMPS FOR POOR CHILDRFN.

No better work could be engaged in than that of sending children into the country, or to the sea-side, and putting them into tents, so that they may be enabled to breathe pure air. The children who live in the back alleys and slums of large towns have but little chance indeed of sharing in any amusements save the making of mud pies; they have not been lifted into an atmosphere in which there is organisation, so that even a brief visit to a camp will waken up elements in the children's nature which will afterwards bear fruit. The children will in camp learn to see the value of order, cleanliness, what it is to play intelligently. The young men who have taken up these camps are deserving of support, and it speaks well for our aristocracy that they have been one of the first to embrace the movement.

THE MODERN INTERNE.

Dr. John S. Hawley, New York, describes as follows the learning of the modern house surgeon:

Erudite in physiology and advanced bacteriology, the interne talks pathology 'till you're deafened by the din,
And of differences essential between high and low potential, and of diagnosis differential of diseases of the skin.
All the signs auscultatory, cardiac, respiratory, are arranged in category his active mind within.
From pyosalpinx gonococcic he gestation that's ectopic tells by murmurs metroscopic, and he knows when it is twin.
He knows pelvic cellulitis from acute oöphoritis, and from hernia, adenitis, be the patient fat or thin,
Or a pachymeningitis from a poliomyelitis, and a typhlo-enteritis at its very origin.
And he knows an epileptic from a seizure cataleptic, and a coma apoplectic from one caused by drinking gin.
Also knows tuberculosis from actinomycosis, and how enemoscoliosis doth distort the youthful shin.
He describes the diabolic agony of renal colic; how aphasia embolic rests the weary, jaded chin;
How luxated hip reduction you achieve by circumduction after ad- and then abduction, if with flexion you begin;
And of kolpoecpetasis, dysmorphosteodiaclasis, and of teleangeiectasis many startling yarns he'll spin.
Of nephritic amaurosis, also symblepharosis, and of intermittent ptosis, which to winking is akin;
Of his skill in pædiatrices, and in modern psychiatrics; of *vis Naturæ medicatrix*, which the palm will always win
In the strife with mind revealers, and with Christian science healers, or with long-haired faith-cure kneelers, who say cancer is but sin;
With interviewers theosophical of Indian ghosts apocryphal, who from climates hypertropical come to practise medicine;
With those with eyeballs staphylomal, who in trances hippodromal voice the accents catacombal of some sainted mandarin,
Who prescribes, for use internal, roots you dig with rites infernal at the moment mid-nocturnal with a piece of rusty tin.
He detects each spinal lesion, every visceral concretion, from that ammoniaco-magnesian to that of pure cholesterin;
Describes the splint of his invention by which he keeps up firm extension, attaching rubber bands in tension to a stationary pin.
Armed with weapons stethoscopic, sphygmographic, microscopic, like a very philosophic, scientific palladin.
Seeks he ulcers duodenal; rends he pectorals trichinal; spears the abscess circumrenal with hypodermic javelin.
He's no Dædalus with wings rheumatic, who, as in the soup his son erratic learns a lesson aerostatic, flies low down with rueful grin.
But, like Icarus, he's sophomoric; his flight at first is meteoric, 'till solar beams so thermophoric melt from his wings their paraffin,
For the interne, ill-supported by his knowledge well assorted, actually as sprains reported the first three fractures he brought in.

AN AUTOMATIC SIGHT TESTING MACHINE.

Automatic machines have undergone many developments during late years. We have now on this principle weighing machines, machines for distribution of post-cards, photos, cigars, sweets, and we shall shortly have in the public schools an apparatus for testing vision. The nimble

penny caught in this way amounts in the aggregate to thousands of pounds, and we may expect a still further development of these machines for the supply of trifling articles. We have been favoured with a private view of the Bruce Green de Woolfen's sight-tester, and we offer a description of it. There is the usual case, somewhat after the model of the weighing machine, but on the front face are two eye-holes, with depression underneath for the nose. You place a penny in the slot, press one foot on a pedal, look through the eye-holes, and by turning a small crank you bring a series of lenses into position. You are looking at a card, on which some words are printed, as, "if you can read this you do not require spectacles." If writing can only be read with certain lenses, then the No. of spectacle required is also read, and on satisfying oneself that these lenses suit, on withdrawing foot a box is set free, in which are order forms, on which No. can be entered. Convex and concave glasses are used for testing in this ingenious manner. The company offer to supply spectacles to order at 4*s.* 6*d.* Medical men interested can inspect the apparatus, by appointment, with Messrs. Woodhouse, Rawson & Co., Hammersmith, London.

THE COLLECTIVE INVESTIGATION COMMITTEE.

As is well known, we opposed this expensive organisation, and we pointed out in the *British Medical Journal* the fallacies that we believed were connected with it. Our opposition was regarded as a personal attack on the eminent organisers of the idea. At Copenhagen, when we met the late Dr. Mahomet, his first words were: "I do not know whether I ought to speak to you." "Why?" we asked. "Because you have so opposed this committee." "But," we rejoined, "we have not opposed you; we have dealt with principles, not men." Dr. Mahomet was too broad-minded to act as some little men would have acted, and our relationship with him is now a pleasant recollection. The editor of the *British Medical Journal*, in his "Topics of the Day," July 15th, sings the *requiem* over this organisation: "Its success has been so dubious," he says, "that after a brief period of existence its animation has, I regret to see, been suspended. I pointed out its sources of inherent weakness, [*we* do not remember reading any published paper of Mr. Hart's to this effect] and the improbability that it could fulfil the large expectations formed of it here, and which for a moment attracted the imagination of other associations, and of the International Medical Congress. It was born with great *eclat*, baptised with many benedictions, welcomed with loud soundings of trumpet at Copenhagen; but neither energy, liberal subsidy, nor the devotion of some of the finest intellects in Europe could keep it alive."

It is useless to beat a dead horse. *Fuit* may now be written across its history, but the lessons are not to be lost. We need hardly point out what these are. In our opposition we disregarded the weight of authority, and considered the measure on its merits. We simply acted as Huxley lays down in his "Lay Sermons," p. 18: "We refuse to acknowledge authority as such. The conditions of resistance to authority are clear. Scepticism, where natural knowledge is concerned, is the highest of duties; blind faith, the one unpardonable sin . . . the most ardent votary of science holds his firmest convictions, not because the men he most venerates holds them. The man of science has learned to believe in justification, not by faith, but by verification," We regret to say that this spirit does not enter sufficiently into some medical minds. To oppose a new theory or new departure in therapeutics is, with some, tantamount to opposing the man; if the man be good (as if there were any merit in this, for all men should be good) the sin of opposition is all the greater. Our general views on professional subjects are freely expressed; we do not attack a man, but a system; if the system be assailable, *tant pis* for the system. Nothing in science now-a-days can live by authority: it may be bolstered up for a time on the shoulders of eminent names, but time comes in, and as with the Collective Investigation Committee, the inherent weakness of the system kills it.

NANTWICH AS A HEALTH RESORT.

Nantwich is a small town of great antiquity, situated in one of the most fertile parts of Cheshire, and being only ten minutes from the important railway centre of Crewe, on the London and North Western Railway, is easy of access to almost any part of the United Kingdom. The health of the town is exceptionally good, zymotic and tubercular diseases comparatively rare, and no death from typhoid fever has been recorded for several years. Mr. Fox, the Medical Officer of Health for Mid-Cheshire, speaks strongly of these facts in his reports, and also of the excellent sanitary arrangements. The great feature of Nantwich at the present time is the existence of the old brine pit, with a shaft sixty feet deep, from which brine is pumped and used for the hot salt baths. The analysis of the brine made by Dr. Frankland, D.C.L., F.R.S., proves the Nantwich baths to be the strongest saline baths in the world. The climate of Nantwich is equable, mild, and dry; heavy falls of snow are rare, and fogs are also infrequent. The effects of the brine baths are tonic and stimulant. Under their influence, circulation is increased, nutrition improved, and nervous tone is invigorated; while in regard to a certain class of nervous disorders and diseases of a gouty and rheumatic nature, they exercise a marvellous curative influence. We have heard of some wonderful cures of sciatica, rheumatism, and gout; and if English sufferers from these painful disorders would be content to try English brine baths, instead of rushing off to continental baths, leaving their friends and home comforts behind them, much inconvenience and fatigue would be avoided. The baths were erected five years ago by three resident gentlemen, more with a desire to relieve suffering humanity than with the idea of making money. The brine is so strong that in the swimming bath, the swimmer can easily walk in the water without the chance of sinking; and

in the hot baths it is necessary to strap the patients down, otherwise they float on the top. Besides the swimming and hot baths, there are vapour, douche, and needle baths.

Many sufferers have been relieved by the Nantwich waters after trying unsuccessfully, both at home and abroad, better known and more fashionable baths. Unfortunately, the Nantwich baths are little advertised, and consequently little known. In the present age, when everything is so extensively advertised, we are much struck by this fact; but we understand that the promoters have such full confidence in the efficacy of their wonderful waters, that they believe time will do for them—certainly, though perhaps more slowly—what advertising has done for the better known health resorts, both of this country and the continent. These baths are given much stronger than brine baths in other places, on account of the brine being heated with steam, and not by the addition of hot water, as is done elsewhere. Any information about the Nantwich baths, and copies of testimonials, can easily be obtained from the obliging secretary, Mr. H. Claud Lisle, solicitor, Nantwich. Dr. Munro is the consulting physician. Nantwich has one great advantage over most country towns: it has a splendid church, dedicated to St. Mary. This is a magnificent specimen of work of the fourteenth century, of a cruciform building of red sandstone, with a very fine octagon tower. The ornamentation of the interior is simple, but the lines and proportions are singularly pure and beautiful. The carved stone pulpit is one of the most remarkable in the country, and the stone groining of the chancel roof is most graceful. Nantwich is in the centre of one of the finest hunting counties in England, and within driving distance of the meets of four celebrated packs of hounds. The Empress of Austria selected this neighbourhood for hunting during her last two visits to England. Some of the old buildings in Nantwich are most quaint and picturesque, and are beautiful specimens of the Cheshire curious style of architecture. There are many places of interest in the neighbourhood, including Combermere Abbey, Peckforton Castle, Beeston Castle, Cholmondelly Castle, city of Chester, and Eaton Hall. A handsome little free library was founded in 1888, which contains many excellent books.

PROPOSED RESOLUTIONS.

The following will be proposed at the August meeting of the British Medical Association: "Recognising the fact that there is an abuse of the *Out-patient Department* of your Medical Charities, this meeting of the British Medical Association resolves—

"1. That medical practitioners and the managers of our medical charities in the various towns and cities, meet together and decide who are eligible for *out-patient* medical aid. This meeting suggests that the following average limit be adopted: When a man and wife make 25*s.* per week and over, or a single person 20*s.* per week and over, that these shall be *ineligible* for *out-patient treatment* at the medical charities—except in cases of accident—and that those earning a similar rate of wage be ineligible for 'home visits'—*i.e.*, visits paid by the staff of the medical charities to sick persons at the patient's home. Further, that either the Manchester system of checking abuse, or that used at the London and St. Bartholomew Hospitals be put into force, but that preference be given to the plan used in Manchester.

"2. In order that those who shall be excluded from the *out-patient* department of our medical charities (by the working of the previous resolution) may have the means of obtaining *immediate* and efficient medical, surgical, and dental treatment, and medicines. This meeting resolves, that a Public Medical Service—such as that suggested in the *Journal* of June 22nd, 1889—be formed, and that this Service embrace those wage earners who are making *under 45s. per week, per family*, and single persons under 30*s.* per week. And that the medical practitioners, dental surgeons, chemists, and hospital managers, are requested to bring about this hospital reform, and establish a Public Medical Service with as little delay as possible.

"3. That having secured hospital co-operation, and having established a Public Medical Service, the members of this Association appoint a committee, composed of two representatives elected by each branch, and that this committee draw up a series of rules for the formation and working of a provident system, whereby wage earners receiving up to 45*s.* *per week, per family*, and single persons 30*s.* per week, may, by making periodic payments during health and sickness, provide themselves, their wives, and children, with efficient medical and surgical treatment, and medicines.

"4. That the principle of a 'wage limit' be adopted, and worked by friendly societies, tontines, and sick insurance companies; or that a 'sliding scale' of payments be made to their medical practitioners, so that the present abuses may be rectified. This scale of payments to be drawn up by the committee constituted as by resolution three. This meeting suggests that the *minimum* medical fee paid by such sick clubs shall be 6*s.* per annum per member: that the person proposed for membership pay a fee of 3*s.* 6*d.* for the medical examination (whether admitted to membership or not) to the practitioner who so examines: that the sum of 1*s.* be paid to the practitioner by the person who obtains it; and that the sum of 8*d.* be paid for each prescription dispensed. This meeting earnestly requests the various authorities of friendly societies, tontines, and sick insurance companies to make provision for surgical and dental treatment, and to draw up a scale of fees for the same, so that they may not be depending on the medical charities for relief.

"5. That this meeting, recognising the fact that there are a great number of beds in the Poor-law infirmaries (there being no less than 12,000 in twenty-five metropolitan Poor-law infirmaries), and many in the various fever hospitals, at present unused for the clinical teaching of students; and giving due weight to the statement made in the Metropolitan Asylums Board Report of 1889 (p. 18), that 'your committee cannot fail to observe the large proportion of mistakes which are made in the diagnoses of small-pox and fever,

desire to express their regret that the Poor-law infirmaries and fever hospitals are not open for the clinical instruction of medical students, and hope that the various authorities will direct their attention to the removal of the present restrictions, so that the educational standard may be improved—it being essential to the health of cities and towns that medical practitioners may be able to recognise fever cases at the earliest possible period.'

"6. That the Council and *Journal* of the Association help in every legitimate way to bring the above resolutions to a successful issue."

MALCOLM MORRIS INDEMNITY FUND.

It is felt by many of Mr. Morris's friends that he should not be allowed to bear the heavy costs (£462) of the recent trial, in addition to the months of anxiety and worry he has been compelled to undergo. By his courage and promptitude Mr. Morris has done a service both to the profession and to the public which requires a more solid recognition than a simple expression of sympathy.

The following subscriptions have been promised, and those who desire to contribute are requested to communicate, without delay, with Mr. G. P. Field, 34, Wimpole-street, London, W., or Dr. Sidney Phillips, 21, Upper Berkeley-street, W.

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New Remedies.

Ulexine, the active principle extracted by Mr. A. W. Gerrard from the common furze (*Ulex europæus*), has been subjected to numerous experiments by various therapeutists, with a view to determine its medicinal properties. According to Dr. J. Rose Bradford, it is a nerve and muscle poison, as well as a respiratory poison, increasing arterial tension and producing diuresis. Dr. E. H. Fenwick states that although it is a powerful diuretic, it must be employed with caution in stricture, one tenth of a grain having caused temporary suppression of urine, vomiting, and fever. M. Pinet, in the *Archives de Physiologie*, expresses his belief, as the result of experiments, that ulexine acts as an antidote to strychnine.

Menthol.—Attention has lately been directed to the internal use of menthol as an anæsthetic. According to Dana, its effect when given internally in doses of five to twenty grains, is to stimulate the cardiac action without increasing its rapidity, and to raise the arterial blood pressure. As an anæsthetic or anodyne in headache and neuralgia, Dana recommends it in preference to antipyrin for weakly and anæmic individuals. In migraine and supra-orbital neuralgia it has been found especially useful. In the opinion of the writer it would probably be well worthy of trial in cholera, as it unquestionably acts as an antiseptic and anæsthetic in the diarrhœa of abdominal catarrh, when the bile duct is obstructed, and bile, the natural antiseptic, is absent or nearly so from the fæces. Menthol is easily taken in the crystalline form if washed down at once with water. *Safrol* in doses of twenty drops is stated to possess similar properties in headache and sciatica.

Sodium dithiosalicylate has now been prepared in two forms, and has been tested therapeutically at Frankfort by Dr. Linderborn. The first form was given in doses of 0.2 gramme, morning and evening, and when stronger doses were required, it was given in the evening every hour for three or four doses. It has been tried chiefly in articular and gonorrhœal rheumatism. In the milder cases the pain and fever were overcome in two days, and in the more severe in six days at the most, when the swelling of the joints disappeared. The medicine acts promptly as an antipyretic, except when administered to phthisical patients. It also possesses a powerful antiseptic action. The second form of the salt has a more powerful action in smaller doses, and does not subsequently produce any objectionable symptoms. It is a gray white powder, very hygroscopic, and easily soluble without residue in water, the solution giving with ferric chloride a faint purple colour. From an acid solution of the salt, the acid separates in yellow resinous drops, that are nearly soluble in water.

Santonoxim, a new compound of santonin, has been recommended by M. Coppola as a substitute for santonin. He believes that the poisonous symptoms sometimes following the administration of santonin are due to an excess of lactic acid in the intestines, by which the solution and consequent absorption of the santonin are favoured, the excess of lactic acid being due to an intestinal catarrh produced by the worm. Santonin, being less readily absorbed and non-toxic, is found to be equally active when administered in double or triple doses. Santonoxim was obtained by Professor Cannizaro in 1885, by the action of the hydroxylamine upon santonin in an alkaline liquid. Its formula is C_{15} H_{18} O_2 NOH.

Naphthol has not perhaps been received so favourably as would otherwise have been the case, in consequence of the difficulty in dispensing it. It has recently been found, however, that naphthol can be dissolved in considerable quantity by alcohol, and that for external application a concentrated solution of this kind can be used. For weaker solutions, the alcoholic one is diluted with an aqueous solution of soap, the alkaline and viscous character of the liquid augmenting the solubility and facilitating the miscibility of the naphthol in the menstruum.

Thiocamf, a new disinfectant, has been highly recommended by Dr. Emerson Reynolds. The basis of it is a liquid formed when sulphur dioxide and camphor are brought in contact. It seems that although sulphurous acid gas requires a pressure of at least two atmospheres for its liquefaction, contact with camphor effects the liquefaction at once without any pressure. The liquid can be kept in bottles without decomposition, and without pressure at ordinary temperatures; but the exposure of it to the air in a thin layer determines the regular evolution of relatively enormous volumes of sulphuric acid gas. Other bactericides are said to be added to this mixture, but the nature of them is kept secret, as the disinfectant is to become the subject of a patent.

Hydracetin, a new antipyretic, is stated to resemble pyrodin, but to be a pure acetyl-phenyl-hydrazin; whereas pyrodin represented only one-fourth of the activity of that compound. It does not appear, however, to be any safer than pyrodin, since it is expressly stated that its internal administration must be watched, and must not be continuous. The doses given in rheumatism of the joints range from five to twenty centigrammes in the day, and only in rare cases to thirty centigrammes. It has also been used with success in psoriasis in the form of a 10 p.c. ointment. Hydracetin occurs as a white, almost tasteless and odourless powder, soluble in about fifty parts of water, and also in alcohol. It has a powerful reducing action, which is considered by Dr. Guttmann to stand in relation to its antipyretic and anodyne properties. It readily reduces alkaline cupric solution in the cold, and precipitates metallic silver from an alkaline solution of silver; it throws down from a mixture of a solution of potassium ferricyanide and dilute solution of ferric chloride an immediate precipitate of Berlin blue, converts mercuric into mercurous salts rapidly on warming, deodorises solution of potassium permanganate, and reduces chloride of platinum to metallic platinum.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. Kesteven, M.D.

A Cerebral Abscess healed. Von Bergman (*Centralblatt für Chirurgie*, June 1st, 1889).—A man, æt. twenty-five years, had suffered since the age of fourteen from purulent discharge from the right ear. From time to time he had experienced pain in the same part. From his earliest years he had suffered also from giddiness and constant headache on the right side. He was in a great degree apathetic. There was no loss of motor power. The left arm and leg were moved more easily and quickly than the right, which had slightly less cutaneous sensibility. The muscles of the right side of the face were somewhat paretic. The wall of the meatus was covered with granulations, and pressure caused the flow of pus. On one small circumscribed spot behind the ear percussion, gave rise to severe pain. The sense of hearing was diminished, so that the patient was deaf on that side at the distance of three paces. From these symptoms abscess was diagnosed in the brain substance of the temporal lobe. This was confirmed by trephining at the lower angle of the right parietal bone, which gave exit to green fœtid pus. The wound was dressed antiseptically, and healed in six weeks' time.

On the Proportion of Water contained in the Blood (*Le Progrès Médical*, June 8th, 1889).—MM. Grehant and Quinquand have determined an increase in the proportion of water in the blood after hæmorrhage, or after the ingestion of water into the stomach. They also find that the venous blood contains less water than arterial blood, which they explain by the passage of water from the veins to the lymphatics.

Sugar of Milk a Diuretic in Diseases of the Heart. M. Germain Sée (*L'Union Médicale*, June 15th, 1889).—M. Sée, from his investigations, has arrived at the conclusion that sugar of milk acts directly upon the renal epithelium, which it stimulates into action without augmentation of blood-pressure. Lactose acts similarly to caffeine without producing cerebral disturbance. The diuretic action of milk M. Sée finds to be due to the sugar of milk, which he regards as one of the most powerful and surest diuretics. Its action had been carefully observed and recorded in twenty-five patients. One hundred grammes of sugar of milk will produce a more profuse diuresis than four or five litres of milk. Its action is certain in cardiac affections, but is not so in renal disease. As a medicine it is borne well. After

eight or ten days its use should be suspended for a few days and then resumed. It has this advantage, that it does not preclude any other diet.

On the Function of the Coccyx in Parturition. By H. Fry (*Centralblatt für Chirurgie*, No. 22, quotes from *American Journal of Obstetrics*, 1888).—Dr. Fry points out that the coccyx has a share in the function of parturition. It is, he urges, contrary to the laws of nature that this bone should be placed at the outlet of the pelvis except for some useful purpose. This function, Dr. Fry holds, is to control the sudden or too-rapid extrusion of the forehead, and to guide the occiput under the symphisis pubis. The finger passed into the rectum will be felt to be pressed against the coccyx at each pain, and pressure will then occur upon the occiput at the symphisis.

Heredity in Myopia (*L'Union Médicale*, June 13th, 1889).—M. Motais, of Angers, submits the following propositions from the examination of 330 young persons. Heredity existed in 216 out of the 330 families—65 per cent. Hereditary myopia is to be distinguished from the acquired defect by its previous appearance and rapid development, and its more frequent and extensive complications. Myopia is transmitted, generally, from father to daughter, at the rate of 86 per cent.; and from mother to son, at 79 per cent. The conditions that favour myopia are unhealthy hygiene and deformity of the orbital arch (in 16 per cent.).

Case of Acute Cocaine Poisoning (*Centralblatt für Chirurgie*, June 1st, 1889).—A dentist, for the extraction of a tooth from a vigorous but somewhat chlorotic girl, nineteen years of age, had injected into the gum, in two portions, 0.1125 gr. of cocaine. After the second injection the patient suddenly became pale, and fell into convulsion. When seen by Dr. Hanel she was quite unconscious, slightly cyanosed, and suffering clonic spasms, which continued five hours. The pupils were widely dilated, and did not reach to light. The pulse, at first could not be counted, came down to 174; the breathing 44. After the cramps subsided the patient remained unconscious for two hours. On being roused she could not look about, had intense photophobia, diminished sensibility of the surface, anæsthesia of the mouth and interior of the nostrils, thirst, retention of urine for twenty-four hours, sleeplessness during the next day, severe cardialgia, and entire loss of appetite. The symptoms disappeared gradually in the course of two or three days. Nitrite of amyl, the application of cold to the head, and large doses of opium had no effect.

A Case of Lupus Miliaris. Dr. During (*Centralblatt für Chirurgie*, June 1st, 1889).—This eruption, also known by the name of acne-lupus, appeared on the cheeks and temples of a young woman, and was at first regarded as acne. It then became of a reddish-brown colour, and partly transparent. The treatment for acne had no effect. Creasote and salicylic acid were then applied; the pimples were destroyed and cicatrices were left. From the peculiar aspect of the eruption Dr. During considered it to be the "disseminated follicular lupus" of Fox, and applied to the case the epithet "miliary lupus."

Hydroxylamin, a New Remedy in Skin Disease. Eichkoff (*Centralblatt für Chirurgie*, June 1st).—Dr. Eichkoff has met with satisfactory results from the use of the hydrochlorate of hydroxylamin, in a one-per-cent. solution of equal parts of glycerine and spirit. The seat of disease is first washed with soap, and then painted from three to five times a day with the solution. Five cases of lupus were rapidly cured under this treatment, and favourable results are reported of herpes tonsurans and sykosis. Dr. Eichkoff warns against the use of a stronger solution than one per cent.

The Predisposing Causes of Hysteria. By. M. Georges Guinon, Paris (*Le Progrès Médical*, 25th May, 1889).—The predisposing affections enumerated are cited from the researches of M. Charcot, thus: *moral emotions*, hypnotic experiments, nervous shock, terrestrial tremors, lightning storms; *general and infectious diseases*, such as typhoid fever, pneumonia, scarlatina, acute rheumatism, diabetes mellitus, paludism, syphilis; *morbid conditions characterized by debilitating effects*, such as hæmorrhages, physical or mental overwork, Onanism and excess of venery, anæmia, and chlorosis; *intoxication*, whether chronic (such as lead, mercury, alcohol, sulphuret of carbon) or acute (as from anæsthetics in surgical operations); *disorders of the sexual organs; some diseases of the nervous system—e.g.*, sclerose en plagues, tabes dorsalis, progressive myopathy, gradual compression of the spinal cord, as in Potts' disease.

Statistical Note upon the Share taken by Consanguinity in the Etiology of Epilepsy, Hysteria, Idiocy, and Imbecility. By Bourneville and Courbarien (*Le Progrès Médical*, June 8th).—In the following table the authors give the result of their scrutiny of 926 cases taken in the Bicêtre and La Salpêtrière. In all cases the fact of relationship between the parents has been noted.

DISEASES	MALES	FEMALES	CONSANGUINITY	
			MALES	FEMALES
Idiopathic Epilepsy	272	202	11	6
Symptomatic Epilepsy	31	7	1	..
Petit Mal Epilepsy (Jardim)	4	..	..	..
Epilepsy, *Procursive*	1	..	..	..
Ditto, Hemiplegic	37	11	1	..
Ditto, Hydrocephalic	11	..	..	..
Idiotic Imbecility	196	56	6	1
Ditto, Symptomatic	44	5	5	..
Nervousness	1	..	..	..
Meningitic Epilepsy	1	1	1	1
Choreic Epilepsy	1	..	..	..
Hystero-Epilepsy	12	24	..	3
Infantile Insanity, Delirium of Persecution, etc.	7	2	..	2
	618	308	25	13
	926		38	

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

Los estados Tifodicas por Fatiga. By Dr. Eloy (*Revista de Ciencias Médicas*).—What is fatigue? Where does it begin, and how does it end? Questions apparently simple enough, but not very easy to resolve. We all, happily, know what it is; we have all felt or feel its effects, and there are many people who are always saying, "Oh, how tired I am!" Like Mariana—

"She said, 'I am aweary, aweary,
I would that I were dead!'"

Yet they cannot describe what they really feel. Amongst scientific men there is little accord, when they notice the subject, as to the cause of this fatigue, which is evidently not due to mere or continuous work, for our heart and lungs never tire.

Littré defines fatigue as a painful sensation due to excessive or too prolonged toil; Robin, in the article "Fatigue," in Nysten's Dictionary as "An exaggerated activity in any part of the body, external or internal, provided with feeling which determines a certain condition in those parts, and which is transmitted to the nerve centres, and felt there; this perception is termed fatigue, or the sense of being tired." Sensation of fatigue! this may be a definition, but it does not tell us what fatigue itself really is, no more than the pain from a blow explains how that blow was given. Many other writers have said the same thing in other words; they have never gone beyond the sensation to find the cause.

Now fatigue is not a perception, a sensation or a mode of feeling, but a profound and functional disorder of those anatomical elements the activity of which has been excessive, and in which reparation has been deferred or rendered impossible for a time. In other words, fatigue is the consequence of perturbations which have interfered with nutritive repair, a pathologic condition of muscular starving, and of which the remedy is rest and food. And in proof we must turn to clinical observation and animal chemistry.

It has been long known that muscular movement produces certain mechanical results, and is attended with the evolution of heat; also that it gives rise *inter alia* to the formation of creatin, creatinine, and lactic acid; residual substances which, according to the experiments of Keim and Prayer, are provocation of sleep, mental disturbance, and even paralysis. Or, as a generalisation, that living cells—as a result of their own activity—throw into the circulation a number of poisonous substances, leucomaines, cadaverines, the degradate of their own constituents.

Long before this had been made out physiology had attributed to the skin, to the liver, and the kidneys most important emunctory powers, and taught that perspiration, the urine, and the bile carried away from the body the residual results of its own life. And that if these organs did not so purify the blood, and the bowels carry away the unused food, uræmia, colœmia, estercorœmia, creatinœmia would happen as evidence of an auto-intoxication of the system.

Now exactly in the same way as these poisonous bodies accumulate when the organs—whose duty it is to get rid of them—fail or cease to act, so, during excessive toil their abnormal production exceeding the capability of the circulating system to carry them away, we have *ponogesia* (*πόνος fatigue*); and the pain and exhaustion are its symptoms.

And this is not quite hypothetical: Bouchard determined experimentally the co-efficient of the toxicity of the urine of a person suffering from excessive fatigue. In a lecture on "Auto-intoxication" (April 14, 1886) he showed that this was twelve cub. centimetres to each kilogramme of the weight of the animal experimented upon; whilst the urine of the same man after rest had to be injected to the amount of forty-five cub. centimetres to produce the same effect. That is, the urine of a subject exhausted by fatigue is nearly four times as poisonously active as that of ordinary conditions.

Some allowance should, of course, be made for the loss of water during hard work by the skin and the resulting concentration of the urine, and the difference is mainly due to the much larger quantity of urea excreted during excessive muscular toil; but it would not be theorising too much to say that, owing to imperfect oxidation of the nitrogenous tissues, other bodies of more poisonous activity may be thrown off, and appear in the urine. As in other abnormal conditions, there are various grades of fatigue: simple lassitude, prostration, exhaustion—attended sometimes with a raised, but usually with reduced temperature. We may call it a typhoid state without fever. There is muscular prostration, dried lips and rough, parched tongue, stupor, sometimes delirium, fœtid breath, loss of appetite, and often marked anæsthesia of skin, whilst the whole body internally seems a bag of aches and pains. And we see examples on every side. Now it is a young soldier who has recently joined his regiment; a dust-laden wayfarer; a servant, newly transported from her village home to a crowded city; an author, writing against time; a young husband, who thinks a lifetime all too short for hymeneal enjoyment. The cause matters little; the result is ever the same—the exhausting march, overstrained brain, prolonged vigils, venereal excess, all lead to the same typhoid state, and made worse by concomitant privations, sufferings moral and physical, nostalgia, or mere weariness of life—all tending in the same direction, or rather, let us say, all springing from the same point: excess of work, with deficiency of cell nutrition; and this has no necessary connection with an empty purse or stomach. It is interesting to notice how much the facial expression of a person worn out with fatigue resembles that of typhoid. And if, as is so often the resource of the lower class, alcohol is taken in place of the natural remedy of rest, we have the additional symptoms of a furred tongue, intense headache, injected eyeballs, complete anorexia, insatiable thirst, with abdominal tenderness and meteorism, which may well make the diagnosis difficult enough if we come upon some homeless outcast, lying in deep stupor by the scarcely more dusty roadside—a mere inarticulate heap of sordid wretchedness. Happily, however, after a warm bath and a few hours' rest in bed, we find our patient resolving his own case into its simplest elements—an auto-intoxication, perhaps *plus* alcoholic, and typhoid without fever.

III.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

Recent Views on Diabetes (*Le Progrès Médical*).—Dr. Dujardin-Beaumetz makes a distinction between glycosuria, which is only a symptom, and diabetes, which is a disease. Of the latter, there are three forms: one form slight and benign, another slow and moderate, and a third grave. The prognosis should not be based on the quantity of sugar which is ascertained, but by the results of diet and *regimen* The *regimen* should be very strict. Dr. Beaumetz prohibits milk, allows 100 grammes of boiled potatoes with each meal, prohibits brown bread, fatty food and pork meats; beverages are sweetened with saccharine, the maximum daily dose to be ten centigrammes, tea and coffee are substituted for alcohols. To this regimen he adds as medicines: bromide of potassium, exalgine, or antipyrin. Muscular exercises are of very great value.

Dr. Germain Sée asserts that normal urine contains sugar. Phenylhydrazin, a new and valuable reagent, reveals 33 milligrammes in 100 grammes of urine in 17 per cent. of healthy individuals. These individuals are not diabetic if, after partaking of 160 grammes of white bread, the quantity of sugar eliminated does not vary. In other words, 250 grammes of cane sugar, or 200 grammes of sugar of milk, must be swallowed, in order that sugar may be eliminated by the urine. Amongst the diabetic, on the other hand, the smallest quantity of these substances is detected in the urine, and increases the existing pathological amount. Glucose is also formed normally in the economy, either by the modification of amylo-saccharine substances in food, or by the transformation of glycogen, or at the expense of the albuminates from without or within. There may, therefore, be a normal glycosuria by simple exaggeration of the ordinary phenomena of life, but on condition that the sugar in the urine is introduced, and that the glycogen of the liver and muscular tissue has not undergone any modification. There is but one step from normal glycosuria to permanent diabetes. This step is taken when the circulation of the liver is altered by the vaso-motor system of this organ, under the influence of irritation of the spinal cord (Claude Bernard), or of other nervous centres. This increased activity exaggerates the genesis of glycogen, and the rapid and excessive transformation of it into sugar. Diabetes is always, in consequence, the result of hyper-glycosuria, which is in the majority of cases of nervous origin. The excessive quantity of sugar formed acts by diuresis, and drains away the pre-existing sugar. The nervous system must be treated, and thereby benefit may be derived.

Erysipelas and Circumcision (*L'Union Médical*).—A Jewish mother was confined on the 27th of April, 1889, of a healthy boy; at the same time the grandfather (an octogenarian) was suffering from facial erysipelas, with large phlyctenœ. The grandfather made a rapid recovery, and notwithstanding slight desquamation, was able to go out on the sixth day, and had communication with the child. Circumcision was performed on the 4th of May, and all went well; but as there was still slight desquamation on the face of the old man, he was not permitted to touch the child. The operator prepared the child, which showed no signs of uneasiness. He observed in the right groin two or three blisters, which were torn whilst washing the genitals. He attached no importance to them, and did not connect them with the grandfather's erysipelas. The operation was performed in the orthodox Jewish manner, and bleeding was slight. The wound was sucked three times, the mouth being filled with wine. The child remained well during the day, but at night was restless, and had little desire for the breast. The following day the wound was nearly healed, and the child seemed in perfect health. The third day the child was restless, hoarse from crying, and very feverish. The wound had entirely healed; the penis and scrotum were normal; but the thighs and legs were covered with broken phlyctenœ, with portions of epidermis hanging loose. There was no longer doubt that the child had erysipelas, commencing in the early vesicles, and due to infection from the grandfather. The manner of contagion was clear, otherwise it might have been alleged that it was caused by the suction. The erysipelas spread little by little over the whole body, from the soles of the feet to the crown of the head, the genitals alone escaping. The child did not entirely recover until the 24th of May. The following facts may be noted in this case:

1. A child six or seven days old may be infected by erpsipelas during desquamation, even if the skin presents no breach of continuity.

2. The wound of operation, made according to the traditional Jewish method, was not influenced in the slightest degree by the erysipelas.

3. The parts operated upon and sucked alone escaped a disease which attacked every other part of the body.

It seems probable that the suction and the bleeding is really a safeguard from a complication which might prove very dangerous.

Prophylaxis of Hydrophobia after Dog-bites (*L'Union Médicale*).—From the 1st of May, 1888, to the 1st of May, 1889, 1,673 patients have been treated in the Pasteur Institute, all bitten either by mad dogs, or by dogs strongly suspected of madness. Of these, 1,487 patients were French, and 186 of other nationalities. Out of the 1,673 persons, 118 were bitten on the head or face; six persons, of whom four were bitten on the head and two on the limbs, were attacked by hydrophobia during the treatment; four others were attacked within fifteen days of the conclusion of treatment; three persons bitten on the head died after the completion of treatment, so that the method failed only three times in 1,673 cases, a mortality of one in 554. If the ten cases whose deaths had been previously referred to were added to these three (which would be illogical), there would then be thirteen deaths out of 1673 cases, or a mortality of one in 128.

Treatment of Heart and Lung Disease by Inhalations of Chloroform (*L'Union Médicale*).—Professor Rosenbach recommends strongly inhalations of chloroform in all those diseases of the heart and lungs in which other narcotics, such as morphia or chloral, act too slowly, and are followed by unpleasant secondary results. He proceeds as follows: Some lint is placed in a funnel, on which is placed from five to fifteen grammes of chloroform. The patient breathes the vapour slowly, holding the chloroform at a little distance from the mouth and nose. As the chloroform is diluted with air, no danger need be apprehended. At the commencement, the patient experiences an unpleasant sensation in the pharynx, which speedily passes off, and the patient makes deep inspirations, which afford a sense of relief, and often induces sleep. Professor Rosenbach has never observed mischievous secondary phenomena to follow this treatment. Inhalations of chloroform are indicated in all cases of attacks of cardiac or pulmonary dyspnœa, but more especially in emphysema, cardiac asthma, and disease of the heart. Good results have also been obtained from its administration during the frequent attacks of cough in the phthisical. Patients who before inhalations had suffered from absolute

insomnia, slept quietly enough after one or two applications during the night. Satisfactory results are obtained in hiccough, and in attacks of intense cardialgia, although in these cases morphia is preferable. Attacks of pulmonary œdema have been cut short. He also advises that tuberculous ulceration of the larynx should be mopped with an aqueous solution of chloroform. The improvement which follows may be explained, partly by its analgesic action, and partly by its parasiticide properties.

Dangers of Sulphonal (*L'Union Médicale*).—After the administration of one grain five centigrammes of sulphonal, a woman, æt. forty-five years, experienced the beneficial effects of the remedy during a period of four days; but as she persisted in its use to relieve habitual insomnia, she was attacked with vertigo, marked gastric symptoms, paralyses, and psychical and cardiac disorders. It was only after four weeks' absolute suspension of the employment of this sorry remedy that she was able to walk a few steps, and even a week later she walked unsteadily. A man, æt. fifty-one, suffering from melancholia, under the influence of two grammes of sulphonal suffered from nocturnal hallucinations. The following day he had vertigo, and vomited several times, and was unable to leave his couch. After a lapse of several days the remedy was again tried, but with the same want of success, and the same symptoms. A nervous lady, æt. thirty-two, who suffered from habitual insomnia, after a single dose of two grammes, remained four days in a somnolent condition, semi-conscious, and feeling continual vertigo. She had no gastric symptoms. Against these instances of intolerance of sulphonal in moderate doses may be cited the case of the courageous Berlin gentleman who, having a strong desire to sleep soundly, took the formidable dose of thirty grammes. He had time to quit the public house where he performed the experiment, and to return home. He had an uninterrupted sleep from Sunday night until the following Saturday morning. He woke up, and slept until Wednesday at one o'clock, when he again awoke. He had a splendid appetite.

Hydrophobia at Toulouse (*Gazette de Hopitaux de Toulouse*).—For some time past canine madness has been prevalent at Toulouse. Two children, recently bitten, have just been sent to the Pasteur Institute. Since then a number of dogs in the town have been ascertained to be mad. The mayor has drawn up a regulation, which concludes as follows: "The public are warned that after the 1st of July all stray dogs found wandering in the streets, either by night or day, will be poisoned."

Deaths from Hydrophobia in the Pasteur Institute (*Le Progrès Médical*).—A man named Moons, of Antwerp, was bitten on March 2nd, 1889, by a dog certified as mad by Mr. Dell, a veterinary surgeon, who examined the dog whilst living, and also made its autopsy. Moons was bitten on the right knee in four places, which did not bleed, although the trousers were torn. He was also bitten on the right side of the chin, at the level of the inferior margin of the maxillary bone; on the lower lip near the left commissure; and in two places on the left cheek. All the bites on the face bled; they were not cauterised, and only dressed by a surgeon after a lapse of four days. Moons was treated from March 7th to April 2nd, and died of hydrophobia on May 17th, 1889.

Mdme. Maillot, æt. eighty-six, of Contasiora (Côtes du Nord), was bitten on April 27th, 1889, by a dog ascertained by M. Le Berre, a veterinary surgeon of Lannion, after a *post-mortem* examination, to be suffering from rabies. A dog which had been inoculated from it on May 3rd had rabies on May 15th. Mdme. Maillot was bitten on the right leg in the anterior portion of the lower third; there were two deep bites which bled profusely. The bites were cauterised with alkali eleven hours after they were inflicted. Mdme. Maillot was treated from the 3rd to the 17th of May. She was seized with paralytic hydrophobia on May 30th, and died on June 2nd, 1889.

Prohibition of Public Exhibitions of Hypnotism.—The Departamental Council of Public Hygiene and Health having expressed a wish that exhibitions of hypnotism should be prohibited on account of the numerous mishaps they have caused, the Rector of the Academy at Poitiers has forbidden all demonstrations of the kind in the schools placed under his supervision. The Mayor of Marseilles has also forbidden public exhibitions of hypnotism in public schools. These are measures which cannot be too highly commended.

The Earliest Inoculations of Variola in France (*Le Progrès Médical*).—The first inoculation of variola made in France was in 1774 by Lassone on the royal family; but a more thorough trial was made in July, 1799, when Vergez, jun., inoculated twenty-two pupils at the "Prytanèe," then the College Louis le Grand. Vaccination was discovered in 1796, but it was not until 1800 that Woodville introduced it into France.

Society for the Protection of Victims to Medical Duty (*Le Progrès Médical*).—This association is now definitely constituted, and has already made a grant of 500 francs to assist Madame Merandon, the widow of a medical man who contracted diphtheria whilst attending a poor child, and who is in distressed circumstances. The treasurer of the society has been instructed to pay the debts of Madame Merandon, to purchase furniture for her, and to provide for her most pressing wants. The society will endeavour to obtain for her employment suitable to her age, health, and aptitude.

IV.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

On the Influence Produced on the Secretion of Saliva by Stimulation of the Cerebral Cortex.—Professors Vladimïr M. Bekhtereff and Nikolai A. Mislavsky, of Kazan, describe (sep. reprint from the *Meditzinskoïe Obozreniïe*, 1888, No. 13, p. 52) their experiments on curarised dogs, undertaken with the object to elucidate the action of the cerebral cortex in regard to the secretion of saliva. Having inserted cannules into the Whartonian and Stenonian ducts, the authors freely opened the animal's skull, and stimulated successively various areas of the cortical surface by means of two needle-shaped electrodes supplying a weak current from the bobbin of Du Bois Raymond's sledge-apparatus. The effects were appreciated by determining the amount of the saliva flowing from the cannules. The experiments have shown that: 1. As regards the *submaxillary gland*, the most intense secretory effects are obtained from irritation of that portion of the fourth primary gyrus which is situated above, and in front of, the Sylvian sulcus. Even very weak currents, applied to the area, continue to excite the submaxillary secretion. 2. The latter is further induced by stimulating—though by somewhat stronger currents—(*a*) the whole anterior portion of the sigmoid gyrus—in front of the *sulcus cruciatus;* (*b*) the outer surface of the posterior portion of the same gyrus; and (*c*) the anterior parts of the second and third primary gyri. 3. As regards the *parotid gland*, the secretion is induced solely by stimulation of the said division of the fourth primary gyrus (*vide sub* 1.) 4. Stimulation of the frontal lobe does not show any influence upon the secretion of saliva. 5. Stimulation of the parietal, occipital, and temporal regions of the cortex, as a rule, gives negative results. Now and then, however, a strong faradisation of the areas just named gives rise to some increase in the submaxillary secretion. 6. The secretion on the side of stimulation is mostly more active than on the opposite one. 7. The submaxillary saliva, obtained on stimulation of the secretory areas of the cortex, is always thin, and generally presents all characteristic properties of the saliva obtained from the irritation of the chorda tympani. 8. Division of the latter is followed by a complete inhibition of the secretion on the corresponding side; while division of the sympathetic nerve does not manifest any influence on the secretion.

On Secondary Lesions of the Tonsils and Lingual Follicles in Pulmonary Tuberculosis.—In the Polish weekly *Gazeta Lekarska*, No. 15, 1889, p. 308, Dr. Zdzislaw Dmochowski, of Warsaw, publishes an able paper on the subject, based on his researches in Professor W. L. Brodowski's laboratory. In all, fifteen fatal cases were examined. They referred to patients of from eighteen to fifty-six, suffering from late phthisis; in five of them well-developed laryngeal tuberculosis and multiple (though small-sized) ulcers of the pharynx were simultaneously present; while in one there was found a tubercular ulcer in the nasal cavity, accompanied by fairly numerous tubercles. In every one of the fifteen patients more or less intense tuberculous lesions of the tonsils were discovered; while in ten the follicular glands at the base of the tongue were also affected in the same way. The principal results arrived at by Dr. Dmochowski may be given briefly as follows:

1. Secondary tubercular lesions of the tonsils represent an exceedingly (*nieslychany*) frequent, if not constant, occurrence in patients suffering from pulmonary phthisis. [The statement is fully in accord with that by Dr. Fritz Strassmann, of Professor Cohnheim's laboratory, who has found tonsillary tuberculosis in thirteen out of twenty-one fatal cases of pulmonary phthisis examined—*vide* Virchow's *Archiv*, 1884, vol. 96, p. 319. Meanwhile, about twenty years ago, Professor R. Virchow was teaching (*Geschwülste*, vol. ii., p. 674) that the lesions in question were extremely rare.]

2. Similar morbid changes in the lymphatic glands at the root of the tongue occur almost as commonly.

3. All facts seem to point out that both the tonsils and lingual follicles are infected from the oral cavity. Indeed, the lesions are met with only in cases of primary tuberculosis of the respiratory tracts. They

are absent when the primary affection is localised in other organs or regions (for instance, in the genital system).

4. The tubercle bacilli, when penetrating from the oral cavity into the crypts of the tonsils, and into the hollows of the lingual follicles, give rise to morbid changes, which at first remain superficial, but subsequently involve ever deeper structures. The initial alterations arise in the epithelial lining, and then in the subepithelial tissue. Soon after the penetration of the microbes into the epithelial cells, the latter become opaque, cease to take in dyes, detach themselves from the neighbourhood, etc. ; in short, the invasion of the bacilli seems to cause something like a complete necrosis of the epithelial elements concerned. The subepithelial layer undergoes inflammatory changes. Later on, the morbid process spreads to the lymphatic sinuses or spaces, and then into the follicles themselves, the changes consisting in an enormous infiltration of tissues with Koch's rods, inflammatory lesions, and the development of typical tubercles. Finally, the latter also appear in the connective tissue between the follicles, along the lymphatic vessels connecting the tonsil with the nearest cervical lymphatic glands (situated close to the large blood-vessels of the neck).

5. Both in the tonsils and lingual follicles tubercular inflammation may lead to ulceration. In the tonsils, however, the ulcers never appear on the free surface of the structure, but are always found in the crypts. But in the lingual follicles, the ulcers developing in their hollow may easily reach the surface to spread over on a more or less extensive area of the adjacent mucous membrane of the tongue.

5. In the tonsils, caseous disintegration of tubercles may occasionally (though rather rarely) lead to the formation of largish cavities (caverns).

7. When examined by the naked eye during the patient's life, tubercular tonsils do not present any special or characteristic alterations, and that even when deep-seated lesions are very intense. In the latter case, the glands may be slightly enlarged (as in cases of a well-developed faucial catarrh), and, on pressure, yield some turbid mucus or serum. Sometimes they are soft and succulent ; sometimes, on the contrary, shrunken, hard, and dry.

8. The striking tendency to the formation of intracryptous ulcers may be, probably, explained by the supposition that deeper layers of the glands furnish some more favourable life-conditions for the tubercle microbe than the external mucous lining.

On the Gastric Juice during Sleep and Wake.—In the *Vratch*, 1889, Nos. 5, 6, 7, and 8, pp. 129 and 164, Drs. S. L. Rappoport and N. S. Jdan-Püshkin, of St. Petersburg, publish each a series of independent experimental researches, which have been carried out in Professor V. A. Manasseïn's clinic, with the object to determine the effects of sleep and waking state on the secretion and properties of the gastric juice in healthy persons. By the way, the authors received each a gold medal for their work from the Conference (Senate) of the St. Petersburg Military Medical Academy. Dr. Rappoport made, in all, seventy-two experiments on fourteen men, of which thirty-six referred to such persons who were waking during day and sleeping during night ; while the other thirty-six observations concerned such subjects who were waking both during the day and night-time. The gastric juice was obtained after the usual method employed in Professor Manasseïn's clinic—that is, by means of a soft gum gastric sound, connected with a receptacle and an aspirating apparatus. The main conclusions drawn by the author from his investigations my be given thus : 1. Under the influence of sleep, the proportion of free hydrochloric acid in the gastric juice, as a rule, decreases to a considerable extent. 2. The acidity of the juice is also diminished very markedly. [In waking state, it oscillated between 0·34 per cent. and 0·07, being in the average 0·21 per cent. Meanwhile, during sleep, it varied between 0·19 and 0·0, the average figure being equal only to 0·08. In other words, the acidity diminished full sixty-two per cent.] 3. The amount of the juice (secreted under the influence of a stimulating agent, such as the internal administration of hard-boiled egg's albumen) decreases. [In the average, it falls from thirty-two cubic centimetres, as obtained during day, down to thirty-two during sleep.] 4. The digestive power of the juice becomes much weaker. [Given a certain quantity of egg's white, a day juice digests, on the average, eighty per cent. of the substance ; while the juice secreted during sleep can digest not more than twenty-nine per cent., that is, the digestive power decreases 63·75 per cent.] 5. The proportion of pepsine and Hammarsten's rennet ferment seems to remain unaffected by sleep. 6. Hence, the said diminution in the digestive power is dependent upon a decrease in the proportion of free hydrochloric acid. 7. As to the time of the appearance of various products of the gastric digestion, it seems to remain unaffected by sleep.

Dr. Jdan-Püshkin's experiments were conducted after the same methods as Dr. Rappoport's. In all, sixty-four observations on fourteen healthy men, aged from eighteen to twenty-four, were made. The results may be summed up as follows: 1. Night sleep manifests a depressing influence on the secretion of the gastric juice, since (*a*) the acidity of the juice decreases (being equal, on an average, to 0·256 per cent. in waking hours, and only to 0·069 during sleep) ; (*b*) the acid reaction (that is, the proportion of free acid) is diminished [The reaction was present in all waking persons, but proved to be absent in twenty-six, and diminished in its intensity in the other three sleepers] ; (*c*) the digestive power of the juice weakens, the failure being dependent upon a considerable decrease in the proportion of free hydrochloric acid, as well as upon a slight diminution in the secretion of pepsine ; (*d*) the proportion of peptones sinks. 2. As to waking during night, it almost does not affect either the secretion of the juice, or its properties. [Therefore, the authors' researches fully confirm the statements published in the *Vratch*, No. 47, 1887, p. 925, by Dr. P. V. Burjinsky, who having carried out ten experiments on six healthy medical male students in Professor Manasseïn's clinic, came to the following conclusions : 1. During night sleep, the acidity of the gastric juice very markedly lessens comparatively with that in waking hours (the average day acidity was 0·16 per cent., the night one, 0·06 ; the decrease amounted, therefore, to 62·5 per cent.) 2. The diminution of the acidity advances parallelly with that in the proportion of free hydrochloric acid. The latter was determined by means of phloroglucin-vanillin, proposed first by Dr. A. Guenzburg, and subsequently recommended by Dr. Burjinsky, Professor Ewald, and many other authors, as the best test for the acid.]

Creolin in Surgical Practice.—In the *Revue Médicale de la Suisse Romande*, June, 1889, p. 361, Dr. Roux, House Surgeon to L'Hôpital Cantonal de Lausanne, details his extensive experience in regard to creolin as a surgical antiseptic and deodorising agent. The following points of practical interest, emphasised by the distinguished surgeon, deserve to be placed before our readers : 1. In cases of recent wounds (sutured or otherwise), he applies successfully gauze soaked in a two per cent. creolin emulsion. He resorts to the dressing, however, only in such patients "in whom neither phenol nor corrosive sublimate can be used, while an antiseptic more reliable than iodoform is required." 2. Creolin possesses a powerful deodorising property, and, hence, may be employed with best results in cases of offensive ulcers or decomposing tumours. 3. In cases of catarrh of the bladder, intra-vesical injections of from a half to one per cent. emulsion of creolin give by far more satisfactory results than those of boracic acid solutions. [An antiseptic action of which Dr. Roux regards as "*plutôt morale que prouvée.*" Professor Nikolai F. Miller, of Moscow, thinks otherwise, and even recommend boracic acid as the best possible antiseptic means in the new-born and infants, which, while being quite innocuous, is fully effective, and hence deserves to be introduced into an universal use. Vide the *Sei-I-Kwai Medical Journal*, February, 1889, p. 35.—*Reporter.*] 4. A two per cent. creolin emulsion is very serviceable for repeated intra-uterine and vaginal irrigations—at least, "in such cases where corrosive sublimate may be deemed dangerous and weak carbolic solutions insufficient." 5. The same solution proves to be useful for irrigating the nasal, oral and pleural cavity, the aural region, etc. 6. Creolin plugs rapidly remove offensive smell in ozæna. 7. On the whole, in hospital practice, creolin may be resorted to as a satisfactory substitute for phenol, corrosive sublimate, and iodoform "in all cases where a powerful deodorisant, or a less dangerous and yet reliable antiseptic is required." With regard to private or rural practice, creolin alone may be used in all cases of minor or rare (*rares*) operations. 8. Creolin, however, cannot be employed for disinfecting instruments, and that partly because of its lack of transparency ("*la recherche des instruments y est une vraie pêche au petit bonheur*"), partly on account of its giving a "soapy touch" to nickel, ligatures, etc. 9. In regard to a stimulating action on granulations, creolin is by far inferior to iodoform. 10. Its main advantages consist (*a*) in its being by far less irritant than carbolic acid ; and (*b*) in its being out of any comparison less toxic than corrosive sublimate. 11. Still, its use requires certain caution, since Dr. Roux happened to observe several times diarrhœa and a rather striking loss of flesh following after a several days' use of creolin in the shape of irrigations or compresses.

Sulphonal as a Hypnotic in Insanity.—Dr. Alexandr J. Malshin, House Physician to the Prëobrajensky Asylum, Moscow, says (*Novosti Terapïi*, No. 22 and 23, 1889, p. 389), that having tried sulphonal in a number of cases of various mental affections, he has arrived at the following conclusions : 1. When given in two-gramme doses at bed-time, the drug, as a rule (but by no means always), brings about sleep which comes in from one to three hours, to last from two to twelve. 2. In organic cerebral disease, sulphonal remains "almost inert." 3. On awakening, the patient always feels depressed and drowsy; while some, in addition, complain of headache and "sensation of being intoxicated" (as if from alcohol). 4. The drug invariably gives rise to general prostration, and inorganic brain disease, to weakening of the pulse. 5. Apparently, it does not produce any impression on the patient's mental condition.

Milk as a "Cure" for Bee-Stings.—According to the *Novosti Terapii*, Nos. 22 and 23, 1889, p. 342, the *Kamminer Kreis-Zeitung* records an instructive case demonstrating a striking remedial value of cow's milk in cases of stinging by bees. An infant, a twelvemonth of age, managed to get near to a bee-hive, and in a minute received as many as thirty-five severe bites about the head, face, and hand. The patient's parents, almost mad from despair, at once began to extract the insects' stings from the greatly swollen and inflamed parts, and to freely apply to the latter fresh milk. In a couple of hours the swellings had all disappeared, and by the night-fall the infant returned to its former best possible state.

V.—OBSTETRICS AND DISEASES OF WOMEN.[1]

The Medals of Benjamin Rush, Obstetrician.—Dr. Horatio R. Storer called forcible attention to the fact that to Dr. Rush was due the first suggestion, or rather prophecy, of obstetrical anæsthesia. He quoted various passages from Rush's works which demonstrated that he was a skilful obstetrician. In the title of one of his papers he closely associates the pains of labour with its dangers, announces that they can both be lessened, recognizes that they are the potent cause of subsequent disease, and teaches their prevention. Particular attention was called to the following statement of Rush: "I have expressed a hope in another place that a medicine would be discovered that should suspend sensibility altogether, and leave irritability or the power of motion unimpaired, and thereby destroy labour pains altogether." The importance of this extraordinarily-interesting passage seems to have been recognised only by Channing, Gaillard Thomas, and Faget of New Orleans. It was lost sight of entirely during the ether-chloroform controversy. Exhaustive research has been made by the author, aided by Dr. Toner, of Washington, which has resulted in failure to find any other reference to it; and similar want of success has followed the studies of Drs. Chadwick, Gaillard Thomas, and Mundé, to whom the author appealed as those who were most familiar with modern obstetric literature.

Dr. Storer exhibited enlarged photographs of the two extremely rare medals of Rush which are in his collection, and expressed the hope that they would be of use in giving the correct features of the "American Sydenham" when his monument, undertaken by the Association, shall be raised, and that the paper itself might tend toward a better appreciation of the true merits of the man himself.

Note on the Use of Boracic Acid in Gynecic Practice.—Dr. W. W. Potter, of Buffalo, first used boracic acid as a substitute for iodoform on account of the bad effect of the latter upon the hands. He found that boracic acid delayed decomposition of uterine and ovarian discharges, and that a tampon could be retained for a week without discomfort or annoyance when this antiseptic was used. In his experience it had also been of service in cases in which sterility existed, and he believed it exerted such chemical action upon the uterine secretions that fecundation became possible. He had also found it one of the best dressings for operative wounds of the female genitals.

Inversion of the Uterus; Reduction by a New Method; Exhibition of the Instrument.—Dr. H. O. Marcy, of Boston, said that inversion may be partial or entire, and is probably more frequent than is usually supposed, especially in the practice of midwives. The shock and hæmorrhage attending the accident are usually severe, and it is not unusual for the patient to succumb within a very short time after the accident has occurred. Hence the principle that reduction should be accomplished as soon as possible, the patient being then kept upon her back, with the vagina tamponned for a sufficient period. The methods of reduction of Emmet, Noeggarath, and Thomas were described and commented upon. Spontaneous reduction could occur, but it was thought that it rarely did. The first systematic attempts at reduction were reported by Prof. J. T. White, of Buffalo, in 1858, Tyler Smith reporting his method in the same year. The method of Winey, of Boston, was thought to be sound in principle, and it had been successful in practice. Barnes' suggestion, that lateral incisions should be made in the cervix before attempts were made at reduction, was also a good one, and had been followed by good results. Thomas's method was once considered bold, though ingenious; but now that laparotomy is so frequently performed it would be adopted with hesitancy. It has been demonstrated, however, that it may be unsuccessful. The author's method was then described, the principle being that traction was applied to the cervix while an equal amount of pressure was applied to the fundus, the opposing forces harmonizing and quickly effecting reduction. The present perfected instrument was reached after a long series of experiments, and has been tried in one case, in which complete reduction was effected in twenty-six minutes. The method consists in passing four stout ligatures through the cervical tissue at equal distances from each other, and these are attached to two parallel rings or hooks upon the side of a long shaft, the hooks working in slots. At the end of the shaft is a hard-rubber cup which receives the fundus. The shaft contains a screw, which is worked by a nut at its lower extremity, the shaft being graded in pounds up to fifteen, according to the number of turns of the screw. As the screw is turned the cervix is dragged down, and at the same time the fundus is pushed upward and through it.

A Series of 500 Cases of Confinement in a Maternity.—Dr. Joseph Price said there had been no deaths and no septicæmia in this series, the institution in question being the Preston Retreat, in Philadelphia. Absolute cleanliness of person and surroundings, abundance of water, soap, and pure air were the means which had yielded such gratifying results. Of these cases fifty-two had been cases of instrumental delivery, many of the mothers having contracted pelves. There was one case of placenta prævia, three of twins, also several face and breech presentations.

Application of Forceps in Transverse and Oblique Positions of the Head, with a Description of a New Forceps.—Dr. Fry, of Washington, said he had sought to obtain the views of many practitioners as to their method of using forceps, and had addressed them in a circular letter. This brought eighty-two responses, of which forty-two stated that the custom was to apply the instrument to the sides of the head; thirty-one others applied to the sides of the pelvis, and in the others the method was indifferent. The author's instrument was curved on the flat, and could be applied in either transverse or oblique positions to the bi-parietal diameter of the fœtal head. Many cases in which there was death or paralysis of the fœtus, were those in which the blades of the ordinary instrument were not at the sides of the pelvis, its pelvic curve being a source of injury when applied in the conjugate diameter. The posterior blade of the author's instrument has both a cephalic and a pelvic cure, the anterior has only the cephalic curve. The instrument has also a screw for the regulation of the compression and a traction rod which is attached to the anterior blade and aids in bringing the head down to the brim of the pelvis.

When should the Obstetrical Forceps be used, and what form of Instrument is required?—Dr. William S. Stewart, of Philadelphia, said that such conditions as eclampsia, exhaustion, uterine inertia, large or impacted fœtal head, called for the use of obstetrical forceps. The membranes must also be ruptured, the os dilated and its lips retracted; there must be a knowledge of the position of the child, the bladder and bowels must be empty. It would seem to be self-evident that one should use the instrument with which he was most effective. An Objection to the ordinary forceps with crossed handles was that, while it was easy of application for the first position, it was difficult or dangerous for the second. Hence the author's instrument, in which the handles are parallel and do not cross. It has also a second joint to the handles and hand-piece, the traction being entirely accomplished with the latter. The blades may be those of the Simpson, or Hodge, or Wallace forceps. The traction and compression with the author's instrument are regulated by the resistance offered; also the principal joint in the handles is not fixed, so that there may be very complete adaption of the head to the pelvis. Either blade can be applied first, and, in the author's opinion, the instrument insures greater safety to the mother and child than by customary means, and greater ease to the accoucheur.

Pathology of Ectopic Pregnancy and Pelvic Hæmatocele.—Dr. W. H. Wathen, of Louisville, based his argument upon the following premises—viz.,

1. The ovum is never impregnated in the uterine cavity, and the conjugation of the male and female elements must take place before or just after the ovum enters the tube.

2. Ectopic pregnancy is always primarily tubal, with the possible exception of ovarian pregnancy; the tube usually ruptures before the fourteenth week into the folds of the broad ligament or into the peritoneal cavity.

3. Abdominal pregnancy cannot occur except as a result of primary or secondary rupture; and if the villous or placental attachments are destroyed, the ovum immediately dies, because it cannot form secondary attachments to other structures.

4. If, in rupture into the peritoneal cavity, the ovum retains villous or placental attachments, it may be possible, under certain conditions, for the pregnancy to continue, though this is not probable. If the amnion is ruptured in the early months, the embryo or fœtus will die.

5. So-called interstitial pregnancy does not always rupture into the peritoneal cavity, though it usually does.

[1] American Medical Association, Newport Meeting, June 25th, 1889.

6. If we define pelvic hæmatocele as an encysted or confined tumour formed of blood, then intra-peritoneal hæmatocele is not possible.

Tait is almost alone in his belief that in normal pregnancy the conjugation of the two elements takes place in the uterus, and the author does not think his premises upon this subject are correct, nor his conclusions logical. His assertion that the spermatozoids cannot pass out through the Fallopian tubes unless disease has destroyed the ciliated epithelium, is based upon no positive evidence, and is contrary to what has been proven in observations upon the lower animals. The ciliated epithelium has no effect upon the movements of the spermatozoids, and their inherent power of movement is proven in those cases in which women have become pregnant with a nearly imperforate hymen, and with atresia vaginæ with only a small fistulous and diseased canal leading to the uterus. If the ovum is not impregnated before, or just after, it enters the tube, degenerative changes will destroy its vitality before it reaches the uterus. If, after impregnation has occurred, the surfaces of the endometrium were not in immediate contact, the ovum would gravitate to the lower segment of the uterus, causing placenta prævia, or else it would pass out into the vagina. The ovum cannot form villous attachments until it is held immovably in the maternal structures, and this is not possible, except in the tube or in the uterine cavity. The reports of ovarian pregnancy are numerous, but they seem to be based upon insufficient evidence. In none of them has ovarian stroma been found unless confined to one side of the sac, and this may easily be due to tubal pregnancy in which rupture has occurred into the folds of the broad ligament.

Parry's statistics of ovarian or abdominal pregnancy were all collected from imperfect or mutilated records made by men of no experience in microscopical and pathological research, and they are practically of no value as proof that pregnancy may primarily occur outside the tube. Ectopic pregnancy may occur at any point in the tube, from a short distance within the fimbriated extremity to the uterine cavity, and is caused by partial or complete closure of any part of the tube, which is usually the result of desquamative salpingitis. It is improbable that tubal pregnancy continues in any case until term, rupture usually occurring prior to the fourteenth week either into the folds of the broad ligament or into the peritoneal cavity. Primary intra-peritoneal pregnancy is impossible, because the ovum cannot be held securely in any one place and form the necessary attachments. The ovum precipitated into the peritoneal cavity dies, therefore, for want of nutrition.

The placenta in extra-peritoneal pregnancy may attach itself to the uterus, omentum, intestines, pelvic and abdominal wall, etc., by stripping off and carrying before it a layer of peritoneum, and many such cases have been reported as abdominal pregnancies. In the latter months of pregnancy the ovum may possibly continue to develop in the abdomen after rupture of the amnion. In intestinal pregnancy there is *usually* rupture into the peritoneal cavity, but *not always* as Tait asserts.

Pelvic hæmatocele sustains such intimate relations to ectopic pregnancy that it is not easy to describe the pathology of the one without referring to the other. Pelvic hæmatocele is usually considered an encysted, intra- or extra-peritoneal blood tumour in the pelvis, which may extend into the abdominal region. The author does not believe it possible for an accumulation of blood in the peritoneal cavity to become encapsulated, so as to form a well-defined tumour in the pelvic or abdominal cavity. If it were possible to have encysted intra-peritoneal hæmatocele, why does it never occur after abdominal sections for the removal of a diseased tube, ovary, or uterus? Encysted hæmatocele may result from a sudden cessation of a pseudo-menstruation that sometimes follows laparotomy, but in such cases the blood is effused into the areolar tissue under the peritoneum, and not into the abdominal cavity. A blood tumour may extend above the pelvis, and even to the umbilicus, but this does not indicate that the hæmorrhage has been into the peritoneal cavity. In intra-peritoneal hæmorrhage no well-defined tumour can be felt *per vaginam* or by abdominal palpation, while in extra-peritoneal hæmorrhage an error in diagnosis is hardly possible. Intra-peritoneal hæmorrhage is almost always caused by primary or secondary rupture of a tubal pregnancy, and the shock and other evidences of internal hæmorrhage will usually point to the cause.

The treatment indicated in abdominal section and ligation of the bleeding vessels. Encysted hæmatocele may be caused by sudden metrostaxis of normal menstruation, or pseudo-menstruation following abdominal or pelvic operations, or by rupture of a tubal pregnancy into the folds of the broad ligament. The symptoms are sudden access of pain, faintness, accelerated pulse, and, possibly, elevation of temperature. The tumour may not be felt above the pelvis, or there may be a well-defined, fluctuating tumour extending as high as the umbilicus. The diagnosis is less readily made if the case is not seen until some days after the hæmorrhage has occurred. Extra-peritoneal hæmatocele usually results in speedy recovery, with suitable care and precautions, the blood being absorbed. Suppuration or rupture into the peritoneal cavity rarely occurs. Should there be symptoms indicating that either of these conditions has occurred, the abdomen should be opened, the cavity thoroughly cleansed, and a drainage tube introduced. If fluctuation is felt *per vaginam* the tumour should be entered through the vaginal vault, otherwise laparotomy should be performed.

Casuistry in Obstetrics.—Dr. T. Parvin, of Philadelphia, said that questions of conscience must always be recurring in the course of the practice of obstetrics. It might be said that all law in all civilised lands is only casuistry. Among the questions of consequence which are proposed to the obstetrician for answer is that of Comte: "If the object of pregnancy is the perpetuation of species, and cohabitation during pregnancy is a source of danger to the fœtus, should cohabitation be allowed?" The author would answer this question decidedly in the negative, considering that it is improper, immoral, unjust, and injurious to both mother and fœtus. Another pertinent question was:

"Should a doctor inform his patients as to the means of preventing pregnancy, admitting that he had the knowlege?" The reply was, that such information would usually be unwise, for though there might be excuse for such information on the score of serious disease in the parents, or inability to protect and support children should they be born, such information was usually extensively disseminated, and its influence would be pernicious. The question as to the propriety of artificial miscarriage is also an important one, and the justifiability of the operation was recognised in such cases as those in which blindness would result from the continuation of the pregnancy.

Such operations as amputations of the pregnant uterus were considered justifiable in certain cases of great pelvic deformity, and the testimony of Tait in this matter gives weight to such an opinion. It must also be admitted that there are also cases in which embryotomy or craniotomy, or some other destructive operation, is not only justifiable, but imperative in the interests of a parturient woman. This statement did not at all conflict with that which had reference to the usefulness of the Cæsarean section. The latter operation should be preferred to craniotomy in those cases in which the conjugate measured two inches or less.

Pelvic Abscess in the Female.—Dr. William H. Parish, of Philadelphia, believed that the existence of pus in the areolar tissue was rare compared with its existence in the pelvic cavity or the organs of the pelvis. He would divide pelvic abscess into three varieties: 1, areolar abscess; 2, intra-tubal and ovarian abscess; 3, intra-peritoneal abscess. The first form is usually a sequel of labour, the latter having been severe and accompanied with more or less injury to the uterus, the cervix, the vagina, etc. Secondary areolar abscess may occur, however, from gonorrhœa, from hæmatoma, etc. He believed that so-called chronic cellulitis, without precedent inflammatory disease of the pelvic organs of some kind, did not exist. The second form usually involved both the tubes and the ovaries, and was more frequently seen than the first. Associated with this there might be a plastic inflammatory condition of the pelvic peritoneum. The term pyosalpinx gave little idea of the extent of this form of pelvic abscess which was possible. Intra-tubal abscess was very frequently due to gonorrhœa, which frequently occurred in young married women, though it might not appear for some months after marriage. It might also come from various forms of traumatism, from septic infection other than gonorrhœa communicated from the uterus.

Septic salpingitis and ovaritis frequently occurred after abortion, in fact rather more frequently than areolar abscess. The careless use of uterine sounds and tents was also responsible for many cases of this condition. In treating either of these two forms of abscess a high degree of operative skill is requisite. Another requisite, in order to a successful issue, is perfect drainage. Aspiration of such cases is usually not advisable, and is fraught with danger. If there is bulging and fluctuation in the vagina, an incision through its wall is indicated. If by such incision an intra-tubal abscess is opened, it may be recognised by the fact that the walls of the abscess sac are smooth to the feel, and also do not collapse. In most cases it is quite inadvisable to operate through the rectum. In any case in which an incision is made, care should be taken to avoid pulsating vessels. Likewise, in placing a drainage-tube it must be provided that it does not come in contact with the wall of a large-sized bloodvessel. If the abscess involves the tube, the necessary treatment is laparotomy with removal of the diseased structures, and the insertion of a drainage-tube. Cases have been reported in which intra-tubal abscess has been cured by drainage through the uterus, but such cases are believed to be of very rare occurrence. The method of stretching the edges of the abscess-sac into the abdominal wall, as advocated by Tait, is not considered desirable for most cases.

The intra-peritoneal variety of pelvic abscess is that in which the pus is in the pelvic cavity. It is not so frequent as that which proceeds from diseased tubes. It may occur from the leakage of pus, from a pyosalpinx into the peritoneal cavity, from a peritonitis, from lymphatic

inflammatory conditions, from initiating ligatures after abdominal section, etc. The quantity of pus in the abscess may be small or it may be very large. In one of the author's cases the quantity was two gallons. In all cases of this variety there should be early operation. Should a fistulous tract result it not infrequently indicates want of skill on the part of the operator.

Tetanus following Ovariotomy.—Dr. Joseph Taber Johnson, of Washington, said it was primarily the report of a very rare case. The patient was sixty years of age, and an abdominal section was believed to be indicated. A small ovarian cyst was removed, a drainage-tube being introduced, and all progressed favourably until the twelfth day. At that time symptoms of tetanus appeared, which increased in intensity until the fifteenth day, when the patient died, with evidences of heart failure. Careful investigation was made, but it was believed that the author's hospital, in which the operation was performed, was in a perfectly sanitary condition. The author's horses were also without disease, and the author's hands were free from injury; the horses had not been driven by him for some days. This complication has reported only a few times, and has usually occurred within a few days after the operation. Bernouil recently announced his belief that it was communicated to human beings by horses, the medium being a bacillus. This should teach all who do abdominal sections to avoid the possibility of infection from horses.

The Injuries of the Bladder during Laparotomy, including a Report of Sixty-seven Cases.—Dr. A. Reeves Jackson, of Chicago, collected his data from various sources. Some of the cases had been already published, but the greater number had been obtained through personal correspondence with the operators in whose practice the accidents had happened, and were now made known for the first time. Of course, it was admitted that the list was incomplete. Some surgeons manifest a reluctance to make known the various mishaps which occur in their operative experience, perhaps with the belief that a knowledge of them might injuriously effect their reputation among their colleagues. The author considered this an error of judgment. Surgeons should be honest as well as skilful, for their integrity would be quite as likely to receive recognition as their dexterity, and was certainly of greater value.

Considering the conditions under which bladder injuries may occur during laparotomy, it was not necessarily discreditable to any surgeon to meet with them, for they might not be due to any carelessness or lack of skill on his part. In many of the cases cited no possible degree of diligence could have averted the accident. Adhesions of the peritoneal surface of the elongated bladder to the anterior abdominal wall, frequently could not be known in advance, and their existence was only demonstrated after the viscus had been opened. The use of the catheter as a means of diagnosis was not always available, because the compression of the bladder against the pubes might prevent the introduction of the instrument beyond that point. Certainly, this attempt should always be made in any case of suspected difficulty, and would seem to be even a proper and unobjectionable routine method.

Another useful precaution was to avoid prolonging the abdominal incision toward the pubic bone until the opening into the peritoneum had permitted the relations of the bladder to be ascertained. The mortality of the cases in which the bladder had been opened was large, being about thirty per cent., but this was due to the complicated and serious character of the cases in which the accidents had occurred, the consequently increased length of the operation, and the greater danger from shock, rather than to the mere vesical injury.

The latter did not seem, in itself, to be very important as influencing the recovery of the patient, but should a fistula occur it would signify great discomfort, and also chagrin and annoyance to the surgeon. Inasmuch as the bladder was recognisable with more difficulty when empty than when full, it would be better in cases which presented doubtful features to commence the operation with the viscus more or less distended. When its position had become known, it might be emptied by an assistant.

As to the treatment, if an opening should be made it should be closed at once with a continuous suture of catgut or fine silk, the serous surfaces of the wound being inverted, and a permanent catheter being used for two days. At the end of that time it may usually be dispensed with. If the wound exceeds two or three inches in length, the catheter should be retained three or four days longer; and in all cases the catheter should be retained as the urine contains blood. Should urine appear at the abdominal wound subsequent to the operation under conditions which would make it dangerous or inexpedient to reach the seat of the vesical injury, the catheter should be used continuously or at short intervals to lessen the quantity of urine which escapes through the fistula and thus aid in its closure. If the fistulous opening shows no disposition to close after two or three months, the edges should be freshened to the depth of half an inch or more, and stitched together.

In exceptional cases it may be expedient to affix the wounded edges of the bladder with those of the abdominal incision, in the manner detailed by Thomas and others, but as this plan must interfere with the subsequent contractility of the bladder, it is not to be commended as a customary practice. The suturing and dropping of the bladder is the better method.

Pelvic Cellulitis. By A. C. J. Skene (*Analetic*, June, 1889).—By this term is to be understood inflammation of the pelvic cellular tissue in the suppurative stage. The author's experience comprises some complications of this condition which are unique so far as his knowledge extends, as he has failed to find any records of similar cases. The cases of extension of inflammation, from the broad ligament to the sheath of the psoas muscle, and burrowing of pus outward and upward, are cited, in one of which the diaphragm was perforated and the pus discharged into the bronchi. In two false anchylosis of the hip and knee joints were present. The following summary of his views is given by the author:—

1. That pelvic cellulitis, uncomplicated, occurs frequently.
2. That sub-peritoneal pelvic hæmatocele should be recognised as one of the causes.
3. That aspirating may be employed before and after suppuration, with advantage in suitable cases.
4. That abscess in the cellular tissue of the pelvis should be opened from the vagina when the conditions are favourable.
5. That laparotomy is advisable when the vaginal wall is not closely adherent to the abscess sac.
6. That laparotomy should be made when a pelvic abscess opens into the bladder and suppuration continues.
7. That cellulitis may extend to the psoas muscle, and give rise to psoas abscess.

On Induction of Labour in Kidney Disorders during Pregnancy. By E. L. Partridge (*Analectic*, June, 1889).—The author is sceptical as to the occurrence of true convulsions in connection with parturiency without an accompanying disturbance of the renal function. The cases which seem to unsettle such a belief may be only apparent exceptions to the rule, as often the urinary signs and uræmic symptoms are of the slightest and most erratic character, and often the albuminuria may be absent on the day on which the urine is examined. As to interference with gestation in cases presenting signs of renal disturbance, no general rule can be formulated. The history of previous uræmic attacks during former pregnancies should always make the question of arresting gestation a prominent element in the problem of treatment to be solved, and this should be answered in the affirmative in case any evidence of the same complication should be observed in the case under consideration. The author holds that the danger of a chronic nephritis, induced by the repeated attacks of the functional renal disturbance, is too great to be overbalanced by the desire to save the child, or by its rights, as there is every reason to believe that spontaneous abortion and eclampsia will follow, if an expectant plan of treatment be adopted in such a case, and that both mother and child will be lost, by temporizing, after symptoms of uræmia have developed, in the larger number of cases. The histories of three cases are reported, all bearing on this point of organic renal disease resulting from successive attacks of puerperal uræmia, but only presenting symptoms during the existence of the pregnant state, two of which were fatal after premature labour had been induced, and the other one of recovery after spontaneous abortion at the beginning of the third month, although grave symptoms of uræmia, not preceded by any urinary signs developed immediately after the miscarriage, but gradually subsided. The symptoms of uræmia developed in all immediately after delivery, and the amount of albumen found in the urine before labour was insignificant or a mere trace. His own conviction is that in every case in which chronic nephritis exists, the immediate interruption of the pregnancy is strongly indicated. In "puerperal albuminuria," the purely functional disease, action in arresting gestation should depend on the amount of albumen excreted; its tendency to increase or diminish; the presence or absence of symptoms and the general condition of the patient. In forty per cent. of his cases of this condition he had induced labour. Vomiting, visceral, disturbances, and marked decrease in the amount of urine excreted are to be regarded as grave symptoms, and demand an exercise of great vigilance and readiness for action on the part of the physician. In the discussion, following the reading of the paper, the author expressed the opinion that in the treatment of eclampsia venesection was preferable to the use of the veratrum viride in the majority of cases.

The Spirit of the Societies.

British Gynæcological Society (Fancourt Barnes, M.D., vice-president, in the chair). **Twisted Pedicle.**—Dr. Edis exibited an ovarian cyst where the pedicle had become twisted and the cyst strangulated. F. W——, æt. thirty, was delivered of a fine child, after a good labour, on March 18th, 1889. The abdomen remained swollen, so that it was thought there was another child. On the evening of May 11th she was seized with violent pain, shooting from the left side to the back. This subsided in a little time, but came again with renewed violence the following evening. She suffered intense pain in the left lumbar region, spreading from thence towards the middle line of the body, and backwards to the spinal column. She also suffered from severe vomiting. On the 17th she was removed to the Chelsea Hospital for Women, where ovariotomy was at once performed. The cyst, as large as the pregnant uterus at the eighth month, was full of a dark greenish coloured fluid, evidently from hæmorrhage having occurred into the cyst. There was also effusion of blood between the walls of the cyst on one side, where it was of the consistence of the spleen. The pedicle, which was formed by the broad ligament, was twisted about one and a half turns from left to right. The right ovary being enlarged and cystic, was also removed. Sickness was troublesome for the first few days after operation, but the patient made a perfect recovery. Remarks were made by Mr. Lawson Tait, Dr. Barnes, Dr. R. T. Smith, and Dr. Purcell, to which Dr. Edis replied.

Cyst of Broad Ligament.—Dr. R. T. Smith showed some silk ligatures which had come away from a patient, æt. seventy-three, from whom he had removed an ovarian tumour five months previously. A cystic swelling, reaching to the umbilicus, had recently developed, and at the operation it was found to spring from the broad ligament. The internal lining was easily enucleated with a few touches of the cautery applied in its deepest portion, where the adhesion was most intimate. The sac was then closed with ligature as low as possible, and left as an ordinary pedicle; it was tied with three loops with stout silk. A drainage tube was left in the abdominal cavity, but was removed the next day as there was no hœmorrhage. For seven days the progress of the wound was uninterrupted, and the wound healed. On the eighth day the dressings were found saturated with a brownish colored sour swelling fluid, and the discharge continued for three months. The patient was sent to the sea-side, having a small india-rubber drainage tube in the wound. On her return the sinus was found to be six inches deep. A fortnight later the thin looped ligature came away, and the wound was healed ten days after, and the patient quite well. Dr. Smith said that the cure might have been quicker if the sac had been drained from the first.—Dr. Bantock said it was his practice to shell out the cyst from the wall proper, and if the base was so large as to make ligature unsafe, he stitched the cyst to the parietes.—Mr. Lawson Tait said since Dr. Myer's paper he had enucleated all cysts of the broad ligament. Once the cyst-proper was out, drainage was a matter of the greatest ease, the tube being passed into the pocket of the cellular tissue. Hæmorrhage was not to be feared, and it was a matter of indifference whether they stitched the cyst to the abdominal walls or not.—Dr. Edis said they learnt from that case that silk ligatures were not absorbed so easily as they might imagine. The one shown was scarcely altered at all.

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Edinburgh Medical Society (John Smith, M.D., president). **Intestinal Obstruction.**—A discussion on the above subject was opened by Dr. G. Miller, who, for practical purposes, made a triple subdivision: (*a*) acute obstruction, (*b*) subacute, (*c*) chronic. Exact diagnosis was always difficult, but especially so in cases belonging to the second group. Five cases were described, all of which proved fatal. This result was doubtless due in part to the delay preceding the operation. When operation should take place would always prove a difficulty.—Mr. Duncan inclined to divide the cases into acute and chronic. The point the most difficult was the diagnosis, as other conditions might be confounded with obstruction. There were various conditions of the bowel wall, or external to the wall. There were also internal conditions, and there were certain reflex conditions, all of which might give rise to symptoms somewhat similar to those of true obstruction. He (Dr. Duncan) described a case which had been presented to him in which alarming symptoms marvellously like those of obstruction were found to be reflex in origin and dependent on an inflamed testicle only partially descended. In connection with obstruction due to a mass of fœces, Mr. Duncan spoke of the occasional value of the long tube, which might be passed further up into the intestine than was usually supposed. With it he had succeeded in breaking down such a mass situated high up, which had resisted other treatment and given rise to serious apprehensions.—Dr. Affleck stated that some cases of apparent obstruction were amazingly tractable. He had more than once reduced intussusception in children by means of inflation with bellows. His experience of operation was unfavourable.—Mr. Cathcart stated that he thought more might be made of the analysis of individual symptoms. Thus, in studying pain, they must observe accurately its seat, its character, whether constant or intermittent, and whether accompanied by tenderness on pressure. As a rule this latter condition would be found to be associated with peritonitis. So in respect to vomiting; it was usually supposed to be ominous when a simple belching of fluid occurred without actual retching.—Dr. William Russell spoke of the difficulties of exact diagnosis, illustrating his remarks from the records of *post-mortem* work. Drs. James Young, Kennedy, Laird, Wallace, Stiles, and Scott Lang also spoke.

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The Public Health Medical Society (Sir Charles Cameron, president, in the chair).—The annual meeting of this society was held at the end of June in the Holborn Restaurant. The report of the Council was read by Dr. F. J. Allan, the secretary, and adopted by the meeting. It shows the society to be in a prosperous and working condition, and the narrative of the work of the past year shows the important duties the society performs, not only on behalf of medical men holding Public Health qualifications, but also in maintaining the standard of excellence of the examination relating to this branch of medicine.—A letter from the General Medical Council was read, in which it is stated that the Council had considered the letters sent by this society, and in consequence had laid down special resolutions respecting Diplomas in State medicine, and had requested the various medical licensing bodies to report what steps they proposed to take to bring their regulations into conformity with the Council's resolutions. The president of the Medical Council also directed the society to be informed that the registration of any new State Medicine Diplomas of the University of London is suspended until further consideration had been given to the matter.—The following gentlemen were elected officers and council of the society:—President, Sir Charles A. Cameron; Vice-presidents, Sir Joseph Fayrer, Sir John Simon, Sir Douglas Maclagan, and Dr. Alfred Carpenter; Treasurer, Dr. William Robert Smith; Council, Drs. P. Hinckes Bird, William Collingridge, John E. Cooney, W. W. Day, David F. Finlay, G. H. Fosbrooke, H. A. Fotherby, T. W. Grimshaw, Alfred Lingard, J. W. Moore, Bonner H. Mumby, A. Campbell Munro, Arthur Newsholme, J. A. Russell, E. J. Slade-King, Henry Smith, Joseph Smith, W. E. Steavenson, John F. J. Tykes, John F. W. Tatham, W. N. Thursfield, B. A. Whitelegge, E. F. Willoughby, W. C. Wise; Honorary Secretary, Dr. Francis J. Allan. The President returned thanks for the honour done him in returning him a second year to office, and desired to record the assistance he had received from the executive officers of the society. Professor W. R. Smith and Dr. F. J. Allan were elected to represent the society on the General Committee of the International Congress of Hygiene and Statistics, to be held in London in 1891.

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Royal Academy of Medicine, Ireland.—D. W. J. Smyly in the chair. **Specimens.**—Dr. Baggot exhibited three specimens. The first was a myoma of the uterus which had been removed in the Rotunda Hospital by Dr. Macan by means of superficial vaginal amputation. The second an ovarian tumour, removed on May 17th; and the third a small ovarian tumour, removed on the 3rd. In the last two cases the patients had made perfect recoveries.—Dr. Horne exhibited an ovarian tumour, removed by Dr. Coppinger from a girl in the Mater Misericordiæ Hospital on the previous Saturday. The patient was a girl of seventeen or eighteen years of age. About six months ago while running she tripped over a stone trough, and fell, hitting her left side against it. On that day she did not feel much inconvenience, but on the following day she had a good deal of pain in the left lumbar region, and was obliged to go to bed, where she remained three days. She sought no medical advice at that time. At the end of two months she began to suffer from a good deal of pain immediately under the left ribs, for which she sought medical advice. The doctor who examined her found a tumour lying immediately below the spleen. But what she remarked about the tumour was that when she stood up it fell down, but when she lay down in bed at night it rose up out of the pelvis, immediately under the left ribs. She only had pain at night, which prevented her from sleeping. There was a good deal of doubt at that time as to whether it was an ovarian tumour or a displaced cystic kidney. Under the circumstances Dr. Coppinger determined to make an incision in the abdomen so as to see the tumour, which was not very much bigger than an orange. He first made an incision of about two

inches long. The tumour was then high up under the left ribs, and he (Dr. Horne) had to push it down to the wound, where it was punctured by Dr. Coppinger, and removed without difficulty. It had a very large pedicle, which had allowed it to move freely over the abdomen.

The Diagnosis and Treatment of Small Submucous Fibromyomata of the Uterus.—Dr. Byrne having taken the chair, the PRESIDENT said:—So long as the rule was generally accepted that in every case of severe uterine hæmorrhage not connected with existing pregnancy the cervix should be dilated, and the cavities explored with the finger, the diagnosis of these tumours presented no difficulty; but since the introduction of the curette has rendered this painful and somewhat dangerous preliminary in the larger number of cases superfluous, it becomes of much interest to ascertain whether these new growths can be diagnosed without previous dilatation. Four cases were detailed, showing that this was the case. The necessity for dilatation was indicated partly by the condition of the cervix, partly by feeling the new growths by sound or curette. In his opinion, dilatation of the cervix uteri was necessary only in order to remove small tumours, polypi, or portions of retained ovum. Large tumours should not be removed per vaginam, and hæmorrhage alone was not an indication. The method of dilatation which he now adopts is to commence with iodoform gauxe, and, if necessary, complete the process with Hegar's dilators. The iodoform gauze is easily employed, and may be left *in situ* for three or four days, and is, therefore, especially adapted to the wants of the busy practitioner. In all the cases the tumours were removed by means of Schultze's spoon forceps. With this instrument diseased tissue alone is attacked, and with ordinary care no harm can be done; enucleation, on the other hand, is much more dangerous and difficult. —Dr. J. BYRNE said the great difficulty was to dilate the external os, and after that had been done there was as great difficulty in dilating the internal os. Iodoform gauze was a great improvement as a gynæcological appliance for the purpose.

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BRITISH LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION, June 26th, 1889 (Sir Morell Mackenzie, president, in the chair). **Epithelioma (?) of Larynx in a Girl.**—Mr. LENNOX BROWNE showed some microscopical sections taken from the larynx of a young lady of eighteen years of age, who was supposed to be suffering from epithelioma. She had at first been thought to be suffering from laryngeal phthisis, but there were no other symptoms, and the condition had improved under treatment. The epiglottis was affected, and the left vocal cord was quite hidden from view by an ulcerated and granulating growth on the left ventricular band. Small fragments of the tissues were submitted to two pathologists of eminence, who both declared the growth to be of an epithelial nature. Swallowing, and consequently nutrition, had not been affected, and as a result, there had been but slight loss of weight; but notwithstanding the microscopical appearance, he was still uncertain as to the real nature of the case.

The PRESIDENT pointed out that it was quite unknown for a patient suffering from epithelioma to go on for two years without losing weight, as was the case with this patient.

Diseases of the Glandular Structures of the Pharynx and Naso-Pharynx.—The discussion on this subject was opened by a paper by Mr. MARK HOVELL, who dealt with the relation of follicular to parenchymatous tonsillitis. He pointed out that in most cases there must be some special cause which determined the particular form of the inflammation. One fact which seemed to bear upon this was the peculiar tendency for either form of the disease to occur, in hospital practice, in groups, the prevailing form being at one time the follicular, and at others the parenchymatous form. This tendency, he observed, could hardly be attributed to atmospheric influence. He also asked why these affections only occurred on one side, or were more severe on one side than the other. He then discussed the relationship of throat affections, especially granular pharyngitis, with uterine or ovarian troubles. On the whole, he was inclined to believe that no real relationship existed, the throat affections being merely secondary to deranged health. The question, however, still remained as to why granular pharyngitis should so frequently be found associated with ill-health in adults, and why particular deposits of adenoid tissue should be affected to the exclusion of others apparently more accessible to the effects of local change. With reference to the treatment of adenoid growths generally, he urged they should be removed whenever they give rise to ill effects irrespective of the age of the patient. Small growths might be got away with the nail, but in most cases a cutting instrument was preferable, avoiding a too extended position of the neck. A general anæsthetic was to be preferred to cocaine. He called attention to a finger guard composed of a piece of rubber tubing, which was simple and efficient.

Dr. WRIGHT WILSON read a paper on the same subject. He alluded to the vagueness of the symptoms of the presence of adenoid growths, as described by aural surgeons. In 235 cases of this kind which had passed through his hands, 225 were ordinary cases, occurring in about equal proportion in both sexes; in the remainder, deafness was the only symptom. In one there was a mastoid abscess. He pointed out the importance of exploring the naso-pharynx in every case of deafness. In ten of his cases the growths were at the sides or back of the pharynx, instead of springing from the vault, as is most usual. He explores the cavity with the index finger, pushing the lip between the molar teeth to prevent the child biting, and then, if necessary, at once introduces the forceps, repeating the process if necessary. He then leaves the patient lying on the sofa for half an hour, with instructions to call him if there should be any bleeding. All forms of exercise are forbidden for the rest of the day. Neglect of this precaution led in one or two cases to serious hæmorrhage. Of the 235 cases seen by him in 1886, 31 per cent. had concurrent disease of the middle ear. In rather more than 11.5 per cent. both tonsils were enlarged, and in about the same proportion only one tonsil was enlarged. In hospital practice, of 519 cases applying for disease of middle ear and nasal obstruction, 235 (45 per cent.) had post-nasal growths.

Dr. WARDEN said he too had noticed the curious association of certain forms of throat disease with disorders of the reproductive organs in females, but he surmised that in many instances the immediate cause of the throat mischief was depraved health. He advocated the removal of adenoid growths so soon as they came under observation.

Mr. LENNOX BROWNE objected to the term follicular tonsillitis, seeing that the crypts or lacunæ were primarily affected. He had some years since suggested that instead of follicular, they should call it cryptic or lacunar tonsillitis. He pointed out that bilateral tonsillitis was usually due to unsanitary conditions, whereas the one-sided and alternating form was associated with climatic changes, or was the result of a diathesis. With respect to the alleged association of throat disease with disorders of the generative organs, he said some of it was quite new to him, though it was twelve years ago since he had drawn attention to the association of menstrual disturbance and ozæna, and he quoted a paper, written in 1883, by Dr. Mackenzie, of Baltimore, on "The Relationship of Diseases of the Sexual Organs to Intra-Nasal Disease." He called attention to the connection between diseases of the thyroid body and glandular diseases of the larynx, and especially to catarrh of the pharyngeal bursa. The subject of adenoid growths he considered nearly thrashed out. He always operated by the finger nail, and never had serious hæmorrhage, but he entirely agreed with the precautions urged by Dr. Wilson.

Dr. HODGKINSON advocated removing the growths at different sittings, and described an instrument which he had devised for the purpose of permitting the operation to ascertain beforehand what he was going to remove.

Dr. GEORGE STOKER advocated the removal of the growths so soon as discovered, whether at four weeks, or even four days. He thought that scraping was an unsatisfactory method of dealing with the growths, and he was in favour of immediate removal under an anæsthetic. He said that he had always been enabled to control the hæmorrhage by means of a solution of tannic acid.

Mr. BOND mentioned several cases of inflammation of the pharyngeal bursa which he had met with, and asked whether they were common? He said that the subjects of hereditary syphilis seemed to be more liable than others to these growths, and then there was a marked tendency to recurrence.

Dr. FARQUHAR MATHESON said that convulsions in children were often due to the irritation set up by the presence of adenoid growths in the post-nasal region. He advocated their removal by means of the finger nail, which method, he said, was particularly useful in cases in which hearing was affected, because no instrument could be got round the angle. He thought that cocaine was often worse than useless. But he thought it was cruel to operate without an anæsthetic.

The PRESIDENT expressed a doubt as to whether there was any real connection between uterine disease and affections of the throat.

Mr. HOVELL, in reply, said he thought it was unnecessary to remove the growths unless they gave rise to inconvenience. He pointed out that the position of the growth had nothing to do with the causation of the deafness, which was due to congestion or excessive secretion.

Discussion on "Gouty Sore Throat."—Sir MORELL MACKENZIE commenced by saying that in the vast majority of cases of throat disease which were sent to him as of gouty origin were in reality nothing of the kind. He said he was only prepared to admit the influence of gout—1. When an acute throat affection suddenly disappeared upon the supervention of well-marked gouty manifestations elsewhere. 2. Obstinate affections of the throat in persons who were manifestly gouty, and those cases in which local treatment directed to the throat had failed to afford relief, but which yielded to constitutional treatment

for gout. He related a case of acute œdema of the uvula in a man, æt. forty-seven, which disappeared upon the sudden development of gouty inflammation in the big toe. The patient said he had caught cold. The uvula was the shape and size of a muscatel grape, and it appeared necessary to puncture or amputate it. By the following day, however, the swelling had disappeared coincident with the development of gout in the toe. Case 2 was that of a gentleman, æt. fifty, who suffered from a chronic affection of the throat, which had resisted all kinds of treatment. He was the subject of gouty enlargement of several joints of the fingers. He found great relaxation and elongation of the uvula, and swelling and marked congestion of the posterior pillar of the fauces. The pharynx and larynx were fairly healthy. No relief was afforded by local treatment, and ultimately the uvula was removed. Still no great benefit was derived. He then turned his attention to the treatment of the gouty condition, and gave him colchicum, purgatives, and alkalies, and at the end of six weeks the congestion of the throat had entirely disappeared. Case 3 was that of a lady, æt. forty-one, with a strong family history of gout, though the only evidence in her person was a slight deposit in the lobe of the left ear. The pharynx was found to be somewhat congested, and there was irregular enlargement of the capitula Santorini and sub-adjacent tissues on both sides. The voice was weak. Both the ventricular bands were red, and they did not meet on attempted phonation. A rounded projection could be seen on the cartilaginous portion of the right vocal cord. This enlargement was touched with the galvanic cautery, and attempts made to remove it, but they failed. In this case constitutional treatment also failed to afford relief. Case 4 was that of a gentleman who complained of hoarseness and slight dyspnœa. There was an angry-looking outgrowth on the left ventricular band, which, later on, ulcerated. It soon became deeply excavated, and inspired great apprehension. The patient subsequently went to Paris and consulted Dr. Krishaber, who unhesitatingly pronounced it to be a case of cancer. The propriety of extirpation of the larynx was discussed, but in the meantime the patient consulted Prof. Von Langenbeck, who dissuaded him from having any operation performed on the ground of the risk and uncertainty involved. He then went to Wiesbaden in order to improve the general health, and within ten days he manifestly improved, and in three weeks he was completely cured. An examination of the larynx on his return proved the absence of anything abnormal.

Dr. Dundas Grant agreed that cases of gouty sore throat were rare, but he mentioned several cases in which he had observed its occurrence. He pointed out that it added another difficulty to diagnosis in cases of suspected cancer of the throat.

Dr. George Stoker related the case of a gentleman, who had consulted him complaining of chronic irritation of the throat. The patient had lived for many years in India, and had suffered from gouty cystitis. From time to time he had brought up a little blood, which alarmed him very much. On examination, he found the larynx fairly healthy down to the vocal cords, but below that level there was a thickening or protrusion of the mucous membrane, which was smooth, and occupied about a third of the lumen of the tube. Notwithstanding a history of syphilis when young, iodide of potassium and mercury did not bring about any improvement in the condition, and he was obliged to diagnose between gout and cancer. The patient had another severe attack of hæmorrhage, but the growth did not increase in size, and the body weight was maintained. The patient had been seen in the interim by an eminent laryngoloist, and he had been pronounced to be suffering from cancer. He had omitted to mention that the thyroid was the seat of an indolent goître. It was not possible to remove any portion of the growth for microscopical examination; but he was still inclined to regard it as due to gout, and not cancer, especially as in the interval he had consulted Dr. Garrod, who had prescribed an anti-gouty treatment.

Mr. Millican mentioned two cases in which the throat symptoms had yielded to salicylate of lithium. He endorsed the remark by Dr. Stoker as to the necessity for distinguishing clearly between a gouty sore throat and a sore throat in a gouty person.

Mr. M. Hunt read a paper on **Lupus of the Throat and Nose,** pointing out the difficulty of diagnosing this condition, which, although rare, was still met with in a certain number of instances.

The President said it was quite exceptional for such cases to come under his notice, and they were rarely met with unless specially searched for in the practice of skin specialists.

Dr. Hodgkinson mentioned a case in which obstinate ulceration of the lower lip was suspected to be lupus, but turned out to be tubercular.

Dr. Dundas Grant alluded to the very excellent paper on the subject by Mr. Lennox Browne, and mentioned two cases which had recently come under his notice in the diagnosis of which he had been very greatly assisted by the information therein contained. He pointed out that tolerance of manipulation was a sign of great diagnostic value. He effected a cure in one instance by thoroughly scraping the ulcerated surface and daily applying a 60 per cent. solution of lactic acid. He remarked that he had recently had occasion to examine the larynx of two lepers in whom the appearances strikingly resembled those of lupus.

Professor Collier demonstrated by dissections and diagrams the existence of a hyo-epiglottic membrane.

Surgical Aids and Appliances.

126.—THE J R P INSUFFLATOR.

Mr. John R. Philpots, L.R.C.P. & S. Ed., J.P., etc., has devised an instrument for use in the insufflation of suitable powders, in the early stages of nasal catarrh and hay fever, the accompanying sketch of which shows the design. It has the following important advantages: (1) It is

small, and light enough to be carried in the waistcoat pocket. (2) Being kept charged with powder, the prompt application which is so necessary can be secured. (3) If the lid of the powder chamber is properly screwed, the contents cannot escape into the pocket or become damp. The following is the mode of preparation and application: Fill the inverted lid of box with the powder, and screw it upwards into the body of the box moderately tight. When required for use, turn the lid so as to bring the niches on its edge in line with the tube. Place the nozzle by turns in each nostril, and give a sharp puff through the mouthpiece. Screw the lid tightly "home" after each insufflation. The box should be re-charged after the third or fourth application, to ensure a sufficient supply being always on hand. In nasal catarrh, the application should be as immediate as possible, before a second sneeze, if practicable. The inconvenience may be temporarily increased thereby, and a slight tingling will be produced; but this will soon pass off, and the beneficial results become manifest in the prevention of the development of the cold. The ordinary Dover's powder will be found very effectual; but, of course, any speciality can be used. At the approach of the hay fever season, those who suffer from this trying complaint will do well to use this instrument for the application of the powder (formula as given below) before leaving the bedroom in the morning, and again before going into the open air. Formula—Sodæ salicylas, ℈iv.; acid boracic (pulv.), ʒj.; cocaine hydrochlor., grs. 22. Also the following has been found useful: Salol; acid boracic (pulv.)—partes equales. It is absolutely necessary that these powders should be mixed by being shaken together in a large wide-mouthed bottle, rather than being pounded, which causes them to cake. It is, of course, understood that insufflation forms only part of the treatment of hay fever—the constitutional remedies will depend upon the peculiar idiosyncrasy of the sufferer.

Medical Miscellanea.

The subject of our next illustration will be Sir William Aitkin.

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Sir James Crichton Browne has been appointed treasurer of the Royal Society.

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Professor Virchow, Drs. von Bergmann and Waldeyer, have been entrusted with the preliminary organisation of the next International Medical Congress, to be held at Berlin August 6th, 1890.

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The University of Oxford has conferred the honorary degree of D.C.L. on Dr. John Billings, so well known by his literary labours on the "Index Medicus," and the "Index of the Surgeon-General's Library of the Army Medical Department." Dr. Billings is attached to the American Army in the capacity of surgeon.

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Dr. Malet, Medical Officer of Health for Wolverhampton, has on the occasion of his approaching marriage, been presented by the members of the Sanitary Committee of the Wolverhampton Town Council with a very handsome Chippendale arm chair, as a mark of their appreciation, and in token of their good wishes.

Dr. Michael Calleen has been appointed a justice of the peace for the county of Louth.

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The new Jubilee College Hospital for Epsom and Ewell, which has been erected at a cost of £1,700, was opened the middle of July by the Duchess of Teck.

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The death is announced at Cheltenham of Deputy Surgeon-General Francis Day, F.R.S., LL.D., on July 10th. He was a distinguished officer and naturalist.

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The Lord Chancellor has placed the name of T. E. Brooks, M.R.C.S., on the Commission of the Peace for Ludlow. Mr. Brooks was Mayor in 1885-6.

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The Directors of the Assistance Publique have distributed among the infirmiers and infirmierès of the Paris Hospitals 2,000 tickets for the Paris Exhibition.

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Dr. Whitelegge, Medical Officer for Nottingham, has been appointed Medical Officer of Health for the West Riding, at a salary of £800 per annum. There were seventy-two applicants.

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John V. Shoemaker, A.M., M.D., and John Aulde, M.D., are engaged on a "Treatise on Materia Medica, Pharmacology, and Therapeutics, which they expect to have out early in the autumn.

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An instance is reported in America of a child who found its mother's pill box with one hundred pellets of quinine and strychnine, and straightway ate thirty or forty of them under a false impression. The coroner held the usual inquest.

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For the vacant post to the Queen's Hospital, Birmingham, there are several candidates. There appears to be some doubt whether the appointment will be a purely medical one, or whether the officer will be a gynæcologist as well as a physician.

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The annual examination for scholarships at Epsom College has resulted in the following elections. Seniors: H. Boulton, A. C. Knight. Juniors: T. Chelwood, F. D. Crosthwaite. Entrance £40: S. M. Smith, from Mr. Tomkins, Yarmouth. Entrance £20: E. E. Child, from Cranligh School. Prize of £10: T. Pritchard (to be raised to £20 scholarship conditionally another year).

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16*th of the month.*

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

A PUBLIC PROSECUTOR.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Would it not be possible to have a public prosecutor, as is done in Canada. I enclose a cutting from a Toronto journal, showing how they deal with unlicensed practitioners. At the meeting of the Ontario Medical Council, June 12th, 1889, the prosecutor presented his report. A detailed statement of the past year's work was given. The number of prosecutions under the Ontario Medical Act amounted last year to thirty-four, the fines reaching the sum of $1,525, while an amount of $240 remains unpaid. Information being laid against a doctor in a certain northern town, he immediately left and remained away until he passed the Council examination, when instructions were given to stay proceedings. The charge against a magnetic practitioner of London was dismissed by the magistrate on the ground that it was not practising medicine when no medicine was used. At the request of some registered practitioners the prosecutor had notified some five women to cease violating the Act, or they would be fined, and it was noted that all the women meekly obeyed. It was moved by Dr. Philip, seconded by Dr. Ruttan, "That Mr. W. W. Webb be re-appointed as prosecutor for the Medical Council upon the same terms and conditions as last year." The motion was carried. The Council then resolved itself into Committee of the Whole to discuss a number of reports, which will be further dealt with to-day.

By having a public prosecutor, the onus of prosecution is removed; the prosecutor's interest would be to look up cases, and thus protect the profession.—Yours truly, M.D.

THE BINIODIDE OF MERCURY.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

DEAR SIR,—The immense superiority of the biniodide as a germicide has this year been experimentally proved, as you are probably aware, by Dr. Woodhead, of Edinburgh. Permit me, as the first practitioner to point out its value in the treatment of scarlet fever and diphtheria, to submit to your notice some important uses of the drug other than those described in my work upon "The Treatment of Specific Febrile Disorders," and to describe methods of prescribing it in other diseases, for the purpose of showing that it possesses other curative properties of a high order. I wish most particularly to call your attention to the fact that such is the penetrating power of the iodide of sodium vehicle, that ophthalmia neonatorum may be cured in four or five days with the biniodide in sodic iodide, of the strength of 1 in 3,000, and ringworm with one application of a 1 in 4 solution.

I. *Local Uses.*—Precipitated and re-dissolved by adding a solution of sodic iodide (1 in 4) to sol. hyd. bichlor. (B.P.). Thus sol. hyd. bi. ℥viii. Sol. sodii iodidi (1 in 4) ℥j. Mix, and thus prepare a 1 in 1,000 solution. Dilute with ordinary water for the various strengths required. Thus for disinfectant uses as a spray, it may be used pure; surgical dressing, 1 in 2,000; otorrhœa, 1 in 2,000 or 2,500; ophthalmia neonatorum, 1 in 3,000; alopecia areata, 1 in 500 (by preparing the sol. hyd. bichlor. of double strength, 1-500); scabies, 1 in 500; puerperal septicæmia, an injection of 1 in 2,000 (warm); scarlet fever and diphtheria, a spray of 1 in 2,000, frequently (scented if for children); ozœna, 1 in 4,000 or 5,000 (warm); hay asthma, 1 in 2,000 as inhalation spray and douche (warm); gonorrhœa, 1 in 4,000 to 5,000, with aqueous solution of opium. Then also in the form of a strong solution of various strengths—thus: to ℥ss. hyd. biniodid. add ℥ss. sol. sodii iodidi, and a strong blistering fluid of full strength is prepared; for the cure of ringworm, add three parts of water to a small quantity of this strong solution, and apply once with a camel's-hair pencil; for epulis, inject one or two minims of the 1 in 4 into the base of the tumour once a week (after cocaine) until cured, for rodent ulcer of the face, apply the strong solution to the raw surface twice a week for three weeks, and then allow to heal, applying zinc ointment for that purpose; for poisoned wounds, apply the 1 in 4 solution daily until the local symptoms subside, and give iron internally.

II. *Internal Uses.*—In mixture, pill or powder (with sugar). Mixture: sol. hyd. bichlor. ℥i.—℥iss.; potass. vel. sodii iodid. ℥ss.; syrup. aurant. vel. aq. menth. pip. ad. ℥vi. Dose, one tablespoonful every two, three, or four hours. Pills, $\frac{1}{16}$th to $\frac{1}{4}$th grain. Powders, with two grains sugar to every $\frac{1}{16}$th grain of biniodide. In meningitis, mixture every two or three hours; pleuritis the same, with chloral or morphia as sedative for cough, and blisters externally; neuralgia, mixture with chloral and bromide, five to ten grains of each; acute congestive headache, with quick pulse and flushed face, pill of $\frac{1}{4}$ grain every four hours, or mixture every two hours; chronic headache, the same three times a day, with double doses of sodic iodide; ñatulent

dyspepsia, with constipation and disordered liver, pills ¼ grain, one at bedtime; cholera, preventive and curative, $\frac{1}{16}$th grain to ⅛th three times a day, with brandy and ammonia; alopecia areata, to check and destroy, mixture three times a day; gout, mixture every two or three hours, with chloral and bromide, if sleepless; iritis, every three or four hours; interstitial corneitis, mixture *ter die*; chronic skin eruptions, mixture; amenorrhœa, in pill with ammonia, and ammonio-citrate of iron in mixture; in sleeplessness from chronic alcoholism or heart disease, in pill (gr. ¼) every four hours. From the curative action in epulis, I should think the biniodide would prove of singular service in the destruction of cancers, and other malignant growths, by injection into their substance.—Believe me, Sir, yours faithfully,

C. R. ILLINGWORTH, M.D.

P.S.—In puerperal septicæmia, I give the biniodide in pill (gr. ¼) three times a day, besides using it locally.

REJUVENESCENCE.

To the Editor of The Provincial Medical Journal.

Sir,—Oliver Goldsmith in one of his essays writes thus: "The improvements we make in mental requirements only render us each day more sensible of the defects of our constitution; with this view, therefore, let us often recur to *the amusements of youth;* endeavour to forget *age* and wisdom, and as far as innocence goes, *to be as much a boy* as the best of them. The character of old Falstaff, even with all his faults, gives me more consolation than the most studied efforts of wisdom I have: behold an agreeable old fellow forgetting age, and showing me the way to be *young* at sixty-five. Sure I am as well able to be merry, though not so comical as *he*. It is not in my power to have, though so much wit, at least as much vivacity. Age, care, wisdom, reflection, begone! I give you to the winds! Let's have t'other bottle. Shakspear, here's to you and Falstaff, and all the merry men of Eastcheap." Another Oliver—Oliver Wendell Holmes—took a joyous flight into, and between, the brackets of "Life's roseate parenthesis," and enjoys a second youth at seventy-nine. Brown-Sequard tells the Biological Society of Paris that, albeit seventy-four, "I have now returned to my twentieth year." Well, in the cases of the two Olivers, we know 'twas the force of a vivid imagination which brought them into this happy state of rejuvenescence. Brown-Sequard ignores all idea of imagination. The *modus operandi* in Brown-Sequard's case in achieving this rejuvenescence is quite a startling revelation! He does not tell his audience *who saw* him at his first operation, nor *who saw* him expressing from the ablated organs the fluid, nor *who saw* him hypodermically injecting that fluid into his thighs for fifteen days, one injection per diem. Again, he does not explain how the foreign semen got into his own testicles after these injections, which gave him, he says, all the vigour of a young man of twenty! I would ask him if he had impregnated a young female at the moment of this wonderful transformation, would her offspring be a pup, or a kitten, or a calf, according to the animal castrated, or if in his own testicles the foreign fluid was to undergo a phenomenal change into a fluid full only of *human spermatozoa*. It is very probable that his contemporary, Septuagemius, would be rather nervous in these hypodermic operations, fearing that nothing short of blood-poisoning would be the sad result. I would say that his announcement is to me a wild, unreasonable, incomprehensible *dream*——of *dotage*.—Yours obediently,

Kanturk, Co. Cork,
July 22nd, 1889.

JAMES J. COPPINGER, M.D.

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☞ This is a useful pamphlet for free distribution.

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EXCHANGES, 1889.

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1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

British:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

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35. Nederlansch Tijdschrift voor Geneeskunde.

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36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
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43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
48. Fortschritt der Medecin.
49. Chemiker Zeitung.

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50. Lo Sperimentale.
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Portuguese:—

52. A Medicina Contemporanea.

Russian:—

53. Vratch.

Spanish:—

54. Rivista Clinica de Barcelona.

Turkey:—

55. Revue Medico-Pharmaceutique Constantinople.

Yours faithfully
William Gibbes

THE

Provincial Medical Journal:

A MONTHLY REVIEW OF MEDICAL SCIENCE, LITERATURE, AND BIOGRAPHY.

VOL. VIII.] SEPTEMBER 2, 1889. [No. 93.

Our Portrait Gallery.

SIR WILLIAM AITKEN.

SIR WILLIAM AITKEN was born in Dundee, Forfarshire, Scotland, on April 23rd, 1825, and educated at the high school there. After serving an apprenticeship to his father, a surgeon in Dundee (who was also surgeon to the Dundee Prison and to the Dispensary), he attended the Dispensary and the Dundee Infirmary as a dresser and clinical clerk, and later on as a resident medical officer for a short time. He matriculated as a student in the University of Edinburgh in 1842, attending first the art classes, subsequently passing through the medical curriculum, and proceeding to the degree of M.D. in 1848, and the same year obtaining the license of the Royal College of Surgeons in Edinburgh.

Dr. Aitken obtained the following prizes and honours in the classes of arts and medicine in the University of Edinburgh: In 1842-43, prize in Junior Mathematical Class, and prize for essay. 1843-44—Hon. certificate in Advanced Mathematical Class. 1846-47—Prize in Botanical Class. 1846—Prize in Faculty of Medicine for essay on a scientific subject, given by the students of the four faculties, and decided upon by a committee of professors; honorary certificate in the class of Physiology; highest prize in Surgery, and gold medal for Surgery. 1848—Gold medal for dissertation on taking degree of M.D. in University of Edinburgh.

In the same year he became Demonstrator of Anatomy in the University of Glasgow, and continued to hold that office, and that of Pathologist to the Glasgow Infirmary, till April, 1855. After the Crimean War, he was appointed on January 28th, and gazetted March 27th, 1860, as Professor of Pathology in the Army Medical School. In 1873 he was elected a Fellow of the Royal Society; and in 1881 a member of the Athenæum Club. In 1887 Dr. Aitken had the honour of knighthood conferred on him, on the occasion of the Queen's Jubilee. In 1888 he had the degree of LL.D. (*honoris causa*) conferred by the Universities of Edinburgh and Glasgow. He also has had the honour of election as a Corresponding Member of several foreign medical societies.

Sir William is the author of numerous papers on pathology and the science of medicine, of which the following may be mentioned: (1) "On Inflammatory Effusions into the Substance of the Lungs, as modified by Contagious Fevers," 1849. (2) "Contributions to Pathology." (3) "On the Pathology of the Diseases of the Troops in the East during the Russian War, 1855-56," in conjunction with Dr. R. D. Lyons. (4) "On the Diseases of the Troops in the East during the Russian War, and on the Climate of Scutari on the Bosphorus," 1857. (5) "Medical History of War with Russia," 1857. (6) "On the Persistent and Pernicious Influence of Residence in Bulgaria on the subsequent health of the British Troops in the Crimea." (7) "On conducting *Post-mortem* Examinations at Coroners' Inquests," 1857. (8, 9, 10) "On the Pathological Connexions and Relations of Epidemic Diseases in Man and the Lower Animals, with special reference to the relationship between the health of man and the condition of his food," 1857. (11) "Analytical Review of the Transactions of the Medico-Chirurgical Society of London, vol. xii.," 1859. (12) "Critical and Analytical Review of recent works on the Pathology of Vaccination, and its protective influence from Small-pox," 1857. (13) "Analytical and Critical Review of the first Decennium of the Pathological Society of London," 1858. (14) Handbook of the Science and Practice of Medicine," 1858 [this has now reached its seventh edition.] (15) "On the Growth of the Recruit and the Young Soldier," now in its second edition. (16) "On the Doctrine of Evolution in its Application to Pathology," 1885-86. (17) "On the Animal Alkaloids."

The portrait is taken from a photograph by Mr. A. J. Melhuish, of 12, Old Bond-street, London, which was enlarged by order of the Council for the British Museum of Portraits, South Kensington.

Original Communications.

SUSPENSION IN THE TREATMENT OF AFFECTIONS OF THE SPINAL CORD.[1]

By Alexander B. Shaw, M.D.,

Professor of Diseases of the Mind and Nervous System and Electro-Therapeutics, Beaumont Medical College; Consulting Neurologist, St. Louis Insane Asylum, Alexian Brothers' Hospital, St. Louis Railroad Hospital, etc.

Suspension in cord affections occurring secondarily to disease of the vertebræ was advocated, and practised with good results, so long ago as 1826, by Professor J. K. Mitchell, of the Jefferson Medical College, and has been employed for a number of years by Dr. S. Weir Mitchell[2] in the same class of cases. The latter, indeed, about the time of Motchoukowsky's discovery, was induced to attempt suspension in two cases of spastic paraplegia in which no spinal caries existed; the excellent results obtained from it in pressure paralysis having led him to believe that stretching the cord, and thus altering its vascular conditions, even when signs of meningeal inflammation were absent, would helpfully affect both cord and membranes. Unfortunately, in these cases, no benefit followed; had it been otherwise, suspension would, no doubt, long since have been generally recognised as a useful adjunct to our scanty therapy in chronic degenerations of the spinal cord.

The fact that suspension is beneficial in the treatment of locomotor ataxia was discovered by Dr. Motchoukowsky, a Russian physician, in 1883, while treating a patient for spinal curvature, who was then suffering from ataxic symptoms. He observed that amelioration of the ataxia followed the suspensions made during the applications of the plaster jacket used for the relief of the curvature, and subsequently suspended other ataxic patients with like favourable results. This important discovery was chronicled and published in a *brochure* on the subject by Dr. Motchoukowsky, in 1883, in which considerable improvement was scribed to it in twelve tabetic persons; also in various neurasthenias, independent of tabes, in which the sexual functions were re-established by this treatment. But, until quite recently, it has been almost barren of results.

However, on the 15th of last January, Professor Charcot, of Paris, delivered a clinical lecture at the Salpétrière, in which he stated that he had recently been experimenting with the suspension treatment of locomotor ataxia, and had been obtaining very remarkable results. Charcot's lecture was published in *Le Progrès Médical*, January 19th and February 23rd, 1889, in which is graphically described the technical details of suspension, as practised by him, with an ordinary Sayre's suspension apparatus. After describing the apparatus, he lays great stress on the danger of causing unpleasant head symptoms, from compression of the blood-vessels in the neck, if the straps are not properly adjusted. Further on, he says: "When the head is duly disposed of,[3] the shoulder-pieces are slipped under the armpits. Though they may appear of minor importance, they really play the part of regulators during the period of suspension. *For*[4] *it is necessary that, whilst lifted off the ground, the patient should not be entirely supported by the head-piece, for then the traction would become, in some cases at least, absolutely intolerable.* . . . . Careful trials are necessary to determine the exact length of the several straps. . . . . While suspended, the patient is made, at intervals of fifteen or twenty seconds, to raise the arms laterally away from the body, so as to transfer more weight upon the head-piece, and so render the traction upon the elongation of the vertebral column still more complete—as complete as is tolerated by each individual. . . . . As a rule, the longest time of suspension must not go beyond four minutes, three minutes being taken as the average. Half of a minute is enough at the outset, the maximum being reached during the first six or eight applications of treatment. It is essential to take into account certain individual susceptibilities or physical peculiarities, among which stands foremost the body weight, for, while a person of from about 130 to 150 pounds may be suspended forthwith during two minutes or more, the case is quite different in those whose weight reaches 180 pounds or more. In the latter, the tension to which the structures of the neck are subjected may become very severe and painful, and be felt sometimes for a whole day afterwards. . . . It is well to note that certain patients have such a wish—a very natural wish—to get better, that they think themselves bound to stand any amount of pain without complaining; but this circumstance is positively detrimental to the success of treatment, which must be accompanied with but trifling discomfort, at the most, without real pain or fatigue, lest it should defeat its own ends. . . . . Suspension must not be carried out oftener than once on alternate days, otherwise it may become more hurtful than beneficial. . . . . When the full time has elapsed, the operator very gradually lets the rope loose, so as to avoid *every trace*[5] *of jerking* during the descent. The patient is to be supported while being freed from the apparatus, and made to rest awhile in an arm-chair, brought near for the purpose."

Up to April 1st, Charcot reports over 800 suspensions, with varying degrees of success, but, in the vast majority, walking is improved after the first suspension.[6] At first, this improvement lasts but a few hours, but after eight or ten *séances* it persists. After twenty or thirty treatments Romberg's sign disappears. Then vesical troubles are lessened or removed, also the lightning pains. Sexual impotence gives place to sexual desires and erections. (Experiments by Dr. Onanoff on healthy persons have shown that this method has an exaggerating effect on virility). The cotton-wool feeling in the feet gives way, more or less, to healthy sensations, and, in general the whole health improves. Every patient steadily improved, with one exception—a young tabetic of thirty-two, who at first improved, then fell off, then improved somewhat. But the knee-jerks have not reappeared in any of the patients, after three months' treatment, nor are the pupillary symptoms altered. As to other diseases, a young female with Friedreich's disease was greatly improved by the treatment. In neurasthenic and impotent patients, the sexual functions were re-established.

Suspension has also proven beneficial "in[7] Parkinson's disease (paralysis agitans), the rigidity and stiffness having given way to a great degree, the sensations of *chaleur* (flushings) have abated, the sleep is improved, and the

[1] Read before the St. Louis Medical Society, June 15th, 1889.

[2] Vide "Treatment of Pott's Paralysis by Suspension, etc.," by S. Weir Mitchell, M.D. *American Journal of Medical Sciences*, May, 1889.

[3] A. de Watteville, *British Medical Journal*, March 9th, 1889.

[4] Italics ours.

[5] Italics ours.

[6] *London Medical Recorder*, March 20, 1889.

[7] Krauss, *Buffalo Med. Jour.*, June 1889.

gait has become less fatiguing. The tremour, however, remains as persistent as ever."

April 15th, 1889.—Bernhardt[8] reported to the Berlin Society for Mental and Nervous Diseases the result of 219 suspensions made in nineteen cases. No unfavourable symptoms observed. Several patients complained of pain in nuchal muscles. Frequency of pulse unchanged. Traumatic paralysis not observed. In certain cases *decided* improvement occurred in different ways.

Lacinating pains were relieved.
Patients can walk firmer and longer.
Urinating is improved.
Sleep is better.
Don't fall out of bed any more.
Sexual power has been regained.
Many say they feel better, stronger.

Suspension is harmless yet potent to benefit certain symptoms. The mental influence is to be considered. The therapeutic *modus operandi* is as yet undetermined. The physician should always superintend suspension. Great care is necessary in cases suffering from heart affections. Eulenberg states that he and Mendel obtained similiar results, forty cases being treated from February 3rd to May 10th, 1889; thirty-one were men and nine women. One case of pseudo tabes (woman) hysteria. Marked improvement.

One case of chron. myelitis (woman). No improvement. Three cases of paralysis agitans. One withdrew from treatment. One no improvement. One walking better. Muscular spasm in arm relieved. One case, traumatic neurosis (man). No improvement. Thirty-four cases of tabes. Several cases had sixty suspensions. Some were suspended daily. Of these five withdrew from treatment, six were discharged unrelieved, two were relieved, one after thirty-nine and the other after sixty suspensions. Still under treatment, twenty-one. Of these four were markedly improved, twelve somewhat relieved and five not affected. In one case syncope occurred at the commencement of treatment. This is the only case in which an unfavourable effect was observed.

In referring to the treatment of locomotor ataxia and transverse myelitis by suspension, in a clinical lecture delivered at the New York Post-Graduate Medical College, Dr. Chas. L. Dana, Professor of Nervous and Mental Diseases, says: The patient I show you here is the ninth case of locomotor ataxia which I have submitted to this treatment in the past two months. Of these, four have had from twelve to sixteen suspensions, and of the five, three report decided improvement in the gait and in sensory troubles. I have also employed the treatment in four cases of transverse myelitis. One discontinued treatment after a few trials, and I think it hurt him; two have just been treated only a short time; one has been remarkably benefited, as regards strength in the legs and greater freedom of movement. In certain cases, not recent, of dorsal myelitis in the middle or upper dorsal region, the suspension will, I think, be of much service. But it must be employed carefully. The patients are suspended with about equal support to the head and under the head and under the shoulders. After a time, more weight may be thrown on the head. Dr. R. M. Simpson, of Winnipeg, Canada, reports[9] two cases of tabes as materially benefited by suspension. Edward Waitzfelder, M.D.,[10] Neurologist to the Randall's Island Hospital, New York, says: I began the suspension treatment in the nervous ward of the Randall's Island Hospital with but little hope of benefit and more from a sense of duty to the unfortunate patients than from any expectation of doing good. The patient was raised just far enough to let the tips of the toes touch the ground. In some of the cases the loops were put under the axilla; in others they were left off.

Case I. –M. O'S——, æt. thirty-nine. History of ataxia for three years. No pains since treatment began. Gait improved. Patient says he feels stronger. After twenty-four suspensions, gait very much improved. Ataxia in walking markedly diminished. Can walk almost in a straight line with eyes closed.

Case II.—æt. thirty-eight. Cerebellar hæmorrhage (?). No objective improvement.

Case III.—J. D——, æt. sixty-three. History for eight years. After fifteen suspensions can stand for short time when eyes are closed; gait very much improved; can now walk without a cane; numbness of feet diminished. The feet, which were always cold before, are now warm. Can pass urine easier than before. No improvement in pains after twenty-four suspensions. Patient thinks they are more frequent and severe than before treatment. Gait very much improved; formerly walked with a marked ataxia of feet, bringing down the heel with a severe shock. Now the walk is very slightly characteristic and the "stamp" of the heel very little and would hardly be noticed. Subjective increase of strength in lower extremities and back. Cramps in legs, which were frequent before, have entirely left him.

Case IV.—æt. fifty-six. History for nine years. After fifteen suspensions, much improved in general condition, walks better; legs feel stronger. Has had no pains at all since suspension was commenced. Urinates with less difficulty, and bladder less irritable. Gait much improved, but little "stamp" to the heel. "Can walk a mile now with as little fatigue as a quarter of a mile before."

Case V.—A. C——, æt. fifty-one. History for three years. Until four days before suspension was commenced, patient was confined to bed for over eight months on account of extreme ataxia of feet and legs. After sixteen suspensions his gait is fairly good, though it still shows inco-ordination; he can follow a straight line for a short distance, can start walking and stop abruptly without much staggering, can turn about suddenly ("right-about-face") with only a little wavering. Has not been in bed in the day-time since treatment was commenced. Diplopia almost gone; subjective increase of strength in lower extremities.

Case VI.—C.B——, æt. fifty-three. History for five years. Patient used to sit in the ward all day, very seldom moving from his chair; said he was not able to walk. After fifteen suspensions, so much improved that he insisted on having his discharge, saying he was entirely free from pain, and could walk as well as ever he could. The improvement was marked from the first suspension.

That there is a direct relation between the effect and cause in these cases there can be not doubt, and that there had been a direct impression produced on the spinal cord, but in what way I am as yet undecided. It is likely that the traction exerted on the spinal nerves in some way brings about a change in the circulation and nutrition of the cord, and the amelioration of the symptoms is due to

[8] *Centralblatt für Nervenheilkunde, Psychiatrie, etc.*, June 1st, 1889.
[9] *Canadian Practitioner*, June, 1889.
[10] *Medical News*, June 1st, 1889.

a lessening of the vascular supply of the cord and its membranes.

On May 1st, 1889, D. D. Stewart, M.D.[11] read a paper before the College of Physicians of Philadelphia reporting the treatment of fourteen cases of disease of the spinal cord by suspension, of which cases 1, 2. 3, 4, 6, 7, and 8, were locomotor ataxia (second stage). Case 5 was locomotor ataxia (first stage). Cases 9, 10, and 11 were primary spastic paraplegia. Cases 12 and 13 were combined lateral and posterior sclerosis and case 14 was one of subacute dorso-lumbar meningeo-myelitis.

He closed his papers as follows: The total number of suspensions made in these cases is upwards of 352. In the tabetics, the symptoms which were first and most strikingly relieved were the ataxia and the lancinating pains; improvement in these occurred in all, and after a very few suspensions; and that, if any relation existed between the early appearance and extent of the improvement and the duration of the disease, it is a direct one; the more chronic cases being those most promptly and decidedly benefited. The improvement in these two symptoms was so prompt and decided that it may well be considered truly remarkable.

Bladder and rectal difficulty, present in two of the tabetics, and increased sexual desire present in one, have disappeared. Diminution in, or loss of, sexual desire, present in five; has improved in but one. Tactile anæsthesia has much improved in three and slightly in one; not at all in four. A somewhat melancholic condition, present in five of the tabetics, disappeared after a few suspensions. This was not due directly to the suspensions, but was rather secondary to the lessening of the pains and ataxia. In none of the eight has the knee-jerk returned, even with reinforcement.

In the three spastic cases, diminution in the paralysis, rigidity, and spasm has been striking in one and slight in another; in the third, no change has occurred in these symptoms. In one of the ataxia paraplegic cases ataxia and paralysis seemed to be lessened after the second suspension. Unfortunately, this improvement was not maintained, possibly because suspension was not preserved in. The other case writes me that there has been marked improvement in gait and pains.

In the case of myelitis, the improvement in the paraplegia and in the general condition has been decided. It may be safely asserted, from the favourable results obtained in nearly all of the tabetic cases, that suspension is of great service in locomotor ataxia, but, whether palliative merely or actually curative, the time has not arrived for definite reply. It is certainly of use in lateral sclerosis; and, in myelitis, the decided improvement produced in one case, in which absolute paraplegia had existed for over six months, commend its trial in others. As an adjunct to other modes of treatment, its utility is beyond question. Apropos to a question quite frequently propounded to-day, we make the following extract:[12]

"HOW DOES SUSPENSION ACT IN LOCOMOTOR ATAXY?"

"1. It has been ascertained that in tabes, posterior spinal meningitis habitually accompanies the pathological changes in the nerve tubes of the posterior columns. The pia mater is found congested and thickened at the level of the posterior columns, . . . it appears to me highly probable that part of the influence of suspension, by which the spinal cord is efficiently stretched, is owing to the *breaking down of adhesions from chronic meningitis*, thus allowing a freer transmission of nervous influence along the nerve tubes. . . . The neuroglia, from being originally soft and yielding, gradually, as the disease progresses, loses its cells and nuclei, becomes firm, hard, and fibrous, and is liable to cicatricial shrinking. . . . Now it seems to me allowable to assume that by the process of stretching the spinal cord, *the overgrown and unduly hardened neuroglia may be loosened and broken down*, with the effect that those nerve tubes which have to some extent survived the sclerotic process are freed from compression, become better nourished, and may be thus enabled to transmit the nervous influence more efficiently than before. Apart from this, however, I have come to the conclusion that suspension has, in a number of cases, a beneficial influence on the medulla oblongata, as it stimulates the centres for vasomotor and cardiac action and for digestion. . . . In a large majority of my cases the appetite and digestion have improved, and mental depression has been lessened or improved.

"The forms of nervous disease for which my personal experience leads me to think that suspension is applicable are the following:—1. Locomotor ataxy in the second stage. 2. Paralysis agitans. 3. Spastic spinal paralysis. 4. Amyotrophic lateral sclerosis. 5. Functional nerve prostration, more especially where there is feeble action of the heart; loss of appetite; and severe mental depression."

The recent plausible explanation as to the action of suspension in tabes, offered by Althaus, indicates that permanent benefit may result from this method, provided that the further progress of the disease can be arrested by other means, and that it has not advanced to complete destruction of the nerve tubules; and that even where its advance cannot be thus stayed, temporary good may still be accomplished by suspension. Althaus' ingenious explanation applies equally to other degenerative diseases of the cord than tabes, and if it is true of the chronic degenerations, in which the pathological changes originate in the nerve elements and the over-growth of connective tissue is secondary, it is, theoretically, far more so of inflammatory processes which starting in the connective tissue, cause, primarily, at least far less damage to the nerve tubes. In chronic inflammations of the cord or its investing membranes which are stationary and are encountered before the contracting perineural tissue has, by compression, done more than interfere with the nutrition and conductivity of the fibres, not irreparably damaging their structure, the effect of suspension should be curative; for, by stretching the cord and the thickened and adherent membranes, the inflammatory tissue pressing upon the axis-cylinders will be loosened and broken down, setting free the latter and permitting them to resume their functions.

All of the suspensions reported by Motchowkowsky, of Odessa; Charcot, of Paris; Abedie, of Paris; Onanoff, Mendel, Barnhardt, and Eulenberg, of Berlin; Dana, of New York; Simpson, of Canada; Waitzfelder, of New York; Stewart, of Philadelphia; Althaus, of London; Saundby, of Birmingham; and others, have been made by means of the Sayre's suspension apparatus. A feeling that danger lurked in this crude mode of suspension, which is rendered a certainty by the report of a fatal result in *Le Praticien* for May, 1889, led me to contrive a suspension

[11] *Medical Record*, June 8th, 1889.
[12] Julius Althouse, M.D., *Lancet*, April 13th, 1889.

apparatus, which was made for me, and is for sale by the A. M. Leslie Surgical Instrument Company, of St. Louis.

This device secures *a*, ready adaptation and facility of application to any sized individual without changing length of straps. *b*. Completeness of control of patient. *c*. Suspension entirely by either shoulders or head, or by both conjointly and equally, or conjointly yet unequally, to any desired degree, to the fraction of a pound. *d*. Exactness as to the amount of tractile force exerted at any moment on the neck.

Its use prevents intentional as well as unconscious deception by the patient as to the amount of weight he is supporting by his head, thus placing the operator without the pale of possible mistakes. It affords an accurate basis for dosage of traction and reports of results. In short, it secures perfect precision, which is the essence of science. It will readily be seen that the scales and attached pulleys when detached afford an instrument peculiarly adapted to the accurate stretching of long peripheral nerves, and of reducing luxation; and the surgeon will discover in this invention the most perfect apparatus yet devised for suspending those suffering from spinal diseases and deformities relegated to his domain. And lastly, by removing the head strap, and shifting the ropes from the upper to the lower cross-bar, and fitting a piece of board into the loops at their lower extremity, a perfect office weighing outfit, much needed by insurance examiners, is secured.

So many perfectly reliable observers working in the interests of science and humanity present such a consension of opinion regarding the beneficial results to be obtained from suspension in certain diseases of the spinal cord, that I am convinced that benefit will accrue from its use in many cases of tabes dorsalis, Friedereich's disease, neurasthenia, impotence, paralysis agitans, transverse myelitis, spastic spinal paralysis and amyotrophic lateral spinal sclerosis. And I shall also give it a trial in chorea, disseminated sclerosis, hysteria, epilepsy, myoclonus multiplex, myotonia, monospasm, lumbago, sciatica, and other allied affections. The technique of the operation of suspension as performed by myself, and a report of the results of treatment in fifteen cases, omitted because of lack of space, will appear in the *St. Louis Medical and Surgical Journal* for August, 1889.

Note.—Since writing the above, I see in the *New York Medical Journal*, of May 11, 1889, that Dr. W. A. Hammond has introduced a spring scales into his apparatus.

A FEW PRACTICAL REMARKS ON TRUSSES AND THEIR APPLICATION TO INGUINAL AND FEMORAL HERNIÆ.

By C. B. Keetley, F.R.C.S.,

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The following paper will have, as a redeeming feature, the conspicuous merit of being on the subject of trusses and yet containing no suggestion of a new truss, or truss pad, or even so much as a new strap. I will endeavour to deal in a useful way with the application of the common kind of truss worn by the vast majority of ruptured people.

"Fit," the Most Important Quality of a Truss.—In Parkes' "Hygiene" it is said that the Duke of Wellington, being asked what was the first essential for a soldier in active service, replied "A good pair of boots." Being then asked what was the second, he reflected a short time and again replied "A good pair of boots." So, also, the first essential for a truss is *fit*, and the second essential is also *fit*. When this is wanting no excellence whatever in the material or plan of the truss will be of any value; when, on the other hand, a good fit is assured, the simplest, plainest, and cheapest of trusses will often give the highest satisfaction to both patient and surgeon.

Fitting a Patient with a Truss a very simple matter.—Now the process of fitting on a truss is usually a far simpler plan than would be inferred from the directions given in the text-books. Only one measurement, as a rule, needs to be taken—viz., the girth of the patient at the level where the truss spring lies (viz., below the anterior iliac spines and above the great trochanters.) Trusses are kept, numbered identically with the number of inches in the girth of the persons they are most likely to fit. Moreover, it is not necessary to keep in stock separate trusses for ordinary inguinal and femoral herniæ. The same truss which fits an ordinary inguinal hernia can generally be, without difficulty, adapted to a femoral hernia of the same side. I have known persons to be very successful at truss-fitting who could seldom distinguish with accuracy between the two varieties. Let it be remembered how immediately adjacent is the femoral ring to the inguinal canal; they are separated only by Poupart's ligament.

The Exact Site of the Hernial Aperture should be determined.—Nevertheless, the surgeon will, of course, carefully make out the exact seat of the hernia, and will find the knowledge of great practical value in fitting the truss.

Examination in the Upright Position—Females.—As a rule the patient should first of all be examined in the upright position. In the case of females, the assistance of an experienced nurse, or, indeed, of any intelligent woman, will easily secure all the requirements of decency. The drawers must be loosened, and such parts as it is not necessary to expose guarded with a towel. The surgeon should bear in mind that he is dealing with a class of affections, highly dangerous to life, and insist quietly but resolutely upon a satisfactory examination. Sometimes the patient objects to a proper examination because she has neglected to put on clean linen or to take a bath. She then usually gives any reason except the true one. Sometimes she objects because the menses are on. Unless dangerous symptoms are present, the last objection may be regarded as a legitimate excuse for postponing an examination, but not for giving a truss without a proper examination at all.

Males.—In the case of men with inguinal hernia, the surgeon should inspect the whole genitalia. It is ludicrous to see some patients undo one button and exhibit a little space of skin the size of half-a-crown. Further examination of these modest people sometimes shows the "hernia" to be a bubo or epidydimitis accompanied by chancre or gonorrhœa.

Inspection.—The appearance presented by the hernia often indicates plainly the orifice from which it has escaped. For instance, a hernial swelling passing down into the scrotum from near the region of the pubic spine is inguinal and obviously not femoral. The same diagnosis may be made in the case of a hernia passing downwards into one of the labia majora. A bubonocele presenting at the site of the internal inguinal ring can also be diagnosed at the first glance. Similarly, also, a hernia which extends downwards or outwards into the thigh is quite certain not to be inguinal, and almost certain to be femoral.

Palpation.—When, however, a small hernia presents close to the pubic spine, that point of bone must be carefully made out by palpation, in order to find out on which side of it and of Poupart's ligament the hernial aperture is situated; in other words, in order to determine whether the hernia is inguinal or femoral. The inguinal canal can be directly examined with ease by invaginating the scrotum on the point of the forefinger. This procedure is not always one of such ease to the patient as it is to the surgeon. The part is sometimes exceedingly sensitive. Both the inspection and the palpation should first of all be made with the patient passive. Afterwards they can be repeated with the patient coughing. The reducibility and the amount of impulse are points which should be determined. Often, the patient having been without a truss, his rupture has been down even night and day for some time. A few minutes of the supine position on a couch, with the foot tipped up higher than the head, will usually enable the patient himself or the surgeon to reduce the hernia.

Measurement.—Trying on the Truss.—The position and reducibility of the hernia having been ascertained, the girth of the patient should be taken at a horizontal level just below the anterior superior iliac spines, and above the great trochanter (assuming the case to be inguinal or femoral), a right or left truss is then picked out of the proper size and applied while the patient lies down, his hernia being reduced. As the wearer lies thus on his back and wearing the truss, the latter generally appears loose and too large, but, when the erect position is assumed, the truss spring sinks into its place. The strap and perinæal band should be carefully adjusted with a view to retaining the truss pad over the hernial aperture. The perinæal band should be slipped into its proper place posteriorly.

Possible reasons why a given truss tried on does not fit.—Supposing that the truss so applied does not fit, the failure may be due to various causes. For instance, the truss pad may reach too far towards the linea alba and pubic symphysis. In that case the truss is too large, or the truss pad may scarcely reach far enough to cover the whole extent of the inguinal canal. In this case it is too small; or the size of the truss may be correct, but the pad fail to press exactly on the right spot or in the right direction. Now a truss spring has no business to be made like a sword blade, nor is it usually endowed with such perfect resilience. It is, therefore, possible for the surgeon with care and patience to weaken or strengthen the pressure of the truss, and even to so alter the shape near the pad, as to materially change the direction and position of its action. The metal back of the truss pad can also itself be bent if desired. Trusses can also be obtained with pads adjustable by screws.

Size of the Truss Pad.—The size of the truss pad need ordinarily bear no relation to that of the hernia, and it is really exceptional to meet a hernial aperture so large that an ordinary *well-fitting* truss pad will not command it. Many instrument makers are not of this opinion. The moment the slightest difficulty presents itself, or even before, if the patient shows a large scrotal hernia, an enormous machine with an outline like that of a cocked hat is clapped on. This is called a "scrotal" truss, and its size seems to be limited only by the necessity of leaving the mouth, anus, and meatus urinarius of the patient uncovered. When an ordinary truss pad does not safely retain a hernia coming through a large aperture, most satisfactory results sometimes follow from the use of a small piece of linen or lint folded several times and placed beneath the truss pad. Comfort, cleanliness, and effectiveness are secured together, as the folded linen pad can be changed and washed. With regard to reducible femoral herniæ, I can scarcely call to mind a single instance of one which required a very large truss pad.

Irreducible Femoral Herniæ.—It is the irreducible femoral herniæ which cause trouble. In the majority of such cases I believe than an operation for radical cure would be by far the best and safest mode of dealing with them (see *British Medical Journal*, December 5th, 1885); otherwise they must be fitted with a carefully *moulded* truss pad. But, as many of these cases are only partly irreducible, and as many yield gradually to the pressure of the moulded truss pad, there is a risk of its eventually giving room enough for a little knuckle of intestine to slip out and become strangulated.

Irreducible Inguinal Herniæ.—Irreducible inguinal herniæ requires the lace-up bag truss. With this, especially if combined with rest in bed and limited diet, the hernia will sometimes slip back, even after being down night and day for a very long period. The foot of the bed should be raised.

Curious Anomalies.—Very curious anomalies are presented by certain cases. I know of several men, past middle age, who are more comfortable with their herniæ down than up, and I know of one who wears a truss to prevent his rupture from going back. Its reduction causes great distress and pain. These cases could probably be brought to the normal condition by patient treatment in bed. Occasionally *both* femoral and inguinal herniæ occur on the same side. In such a case a double pad should be fitted to the same spring. There are usually two buttons on the back of each pad, the lower one for the perinæal strap, the upper for the girdle strap. In a few cases the truss is more comfortable or more effective with both straps attached to the same button. The material of the truss pad is not a matter of indifference to persons of means; but if the truss do but fit well, even the ordinary pad, stuffed with cork, etc., generally grows comfortable enough after a few days wear. There are great individual difference as regards the sensitiveness of these parts. An exceedingly comfortable and luxurious pad is the "glycerine pad." It is not part of the plan of this paper to discuss the merits of the various ingenious kinds of truss, and arrangements of the parts of the truss, which have been invented. Infants should have two trusses, so that one can be worn while the other is washed and dried. These trusses should be waterproof.

THE ETIOLOGY OF LEPROSY—A CRITICISM OF SOME CURRENT VIEWS.[1]

By P. S. Abraham, M.A., M.D., B.Sc., F.R.C.S.I.,

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Putting to one side, for the present, the bacillus, which all pathologists agree is to be found in every leprous neuroplasm, the supposed etiological factors of leprosy which have been most considered of late years, are three, viz., (1) Heredity; (2) A diet of fish; (3) Contagion.

[1] Read in the Section on Dermatology and Syphilography at the Fortieth Annual Meeting of the American Medical Association, held at Newport, R.I., June, 1889.

The theory of heredity has had immense support, both lay and professional, and it is curious to observe how loth some medical authors are to set themselves free from its trammels, or to question its influence in propagating the disease, even though many of the facts which they themselves adduce seem obviously to lead to quite another conclusion. As Mr. Jonathan Hutchinson points out,[2] the fact of leprosy occasionally appearing in healthy immigrants, and just as severely as if such persons belonged to leper families, is enough to prove that hereditariness goes for little or nothing in its causation. It is indeed idle to deny the liability of leprosy to attack individuals who have not the slightest hereditary taint.

In a recent paper,[3] my friend, Dr. Blanc, who has in late years seen probably more cases of leprosy in the United States than any one observer, shows that in forty-two cases treated by him, twelve were natives of foreign countries (seven German, one Austrian, one English, one Irish, one French, one Italian), and of the remainder, eighteen were the the children of foreign born parents (chiefly German and Irish), "from which we conclude," he says, "that if the disease is hereditary, it must be derived from a variety of foreign sources; and if acquired then it seems to attack the children of immigrants as often as those of the older native families." What evidence can be stronger against heredity?

An important paper on the Heredity of Leprosy has lately been published by Dr. G. A. Hansen,[4] who made a journey to North America last year to see what had become of the Norwegians who had gone there as lepers or had developed leprosy after their arrival in the new world, and to study this question of heredity in particular. With the help of Dr. Hogh, of Minneapolis, and Dr. Grunwold, of Minnesota, he was able to find out that about 160 Norwegian lepers had been established in the states of Wisconsin, Minnesota, and Dakota. Many of them are married, and several of them have left a good many descendants. There are, in addition, many other Norwegian immigrants who are either descended from lepers, or have leprous relations in Norway. There is, therefore, in those districts, considerable material for the inheritance of leprosy. Of the 160 leper immigrants, only thirteen are left, which he himself saw, and besides these there are perhaps three or four others. All the rest are dead. Of all their descendants whom he has seen as far as the great grandchildren, not one has become a leper. This is, in short, the result of his investigations; and he says there can be only one explanation—viz., that leprosy is not inherited.

The Fish Theory.—In reference to this old theory, Mr. Hillis wrote in 1881 that it "may now be laid aside as obsolete;" and it is, I believe, almost universally discredited by the medical men in Norway, as well as in every other part of the world where leprosy is rife. Nevertheless, one who is justly regarded as one of our highest British authorities is still, it seems, an ardent believer in the view that the disease is contracted by the eating of fish, more especially fish which has been somewhat decomposed, or has been salted.[5]

Those who oppose this theory may well point out that while numbers of people in Scandanavia, in Africa, and in other countries, habitually regale themselves with imperfectly cooked or decomposed fish, and do *not* get leprosy, numbers of those who *do* acquire the disease are not aware of ever having eaten anything of the kind. (This negative argument is apparently at least as good as that largely relied on by the anti-contagionists, who infer that because many persons who come in contact, or even live with lepers, do not become lepers, therefore the disease cannot be contagious under any circumstances.)

If, indeed, it must be through *one* particular article of diet, in all parts of the world, that the germ of leprosy is introduced into the system, why may we not select something which everyone must swallow at some time or other, such as, for instance, bad water? Filters and other precautionary measures are, at any rate, not particularly fashionable in leper countries.

We really had no direct arguments against a possible dietetic origin for leprosy, *i.e.*, at least by means of contaminated food; and the view of Dr. Liveing promulgated in his Gulstonian Lectures so long as 1873[6]—viz., that the disease may be "propagated by the inhibition of the excretions of those affected, much in the same way as typhoid fever or cholera," may yet come to the front and secure further support.

The Contagion Theory.—Although clear and distinct instances of the direct communicability of leprosy from person to person are few and far between, and, from the nature of the disease, its latency and uncertain prodromata—difficult to prove, it appears to me that we cannot now deny its "contagiousness" in the sense that untainted individuals may occasionally become affected with the disease after being in close relation with lepers. As far as I can see there is no getting over Dr. Hawtrey Benson's case,[7] and as that careful physician remarks, "to ignore the evidence of contagion in this case, where the circumstances are so simple and so well authenticated, is indeed to strain scientific caution to its utmost limit, if not beyond it. . . . The proof of contagion afforded by this case possesses a force little short of that of a mathematical demonstration." I agree with him that "one such fragment of positive evidence carries more weight than a vast accumulation of negative evidence." In 1885, in his lecture on leprosy, Mr. Jonathan Hutchinson is reported to have said, "of course, if you are prejudiced in favour of its contagiousness, you can produce instances apparently in favour of it, especially if you reject a thousand negative facts in favour of one fact which seems to support it. I submit that no one who will read a record of the facts can ever believe that contagion can take place." There are other authorities, too, who, having made up their minds on the subject many years ago, are "of the same opinion still;" several, however, have seen reason to modify their views. Until a few years ago most of the Norwegian physicians disbelieved in the contagion of leprosy. Dr. Hansen, however, the discoverer of the bacillus, boldly asserted its infective character; and I found last year that Dr. Sand, of Trondhjem, and Dr. Kaurin, of Molde, have both come round to his way of thinking. The veteran, Dr. Danielson, however, is still of the old opinion—for, as he told me, "in all his long experience with the disease he had never met with one single instance of contagion." Dr. Nickoll also has no belief in the contagion of leprosy

[2] Clinical Lecture on "Leprosy, its Cause," etc.—*Med. Press and Circular*, Nov. 4th, 1885.

[3] "Leprosy in New Orleans."—*N. O. Med. and Surg. Jour.*, 1888.

[4] Virchow's Archiv., Vol. CXIV., 1888.

[5] Mr. Jonathan Hutchinson, l. c., p. 417.

[6] "Elephantiasis Graecorum, or The True Leprosy," 1873, p. 93.

[7] Dublin Journal Medical Science, 1877, p. 562, and letter in British Medical Journal, April 13th, 1889.

nor indeed in its heredity, although, like Virchow and many others, he admits that there may be hereditary predisposition to contract the disease. He informed me that he had seen several cases, besides the one he has published, which point to direct contagion. Dr. Sand is of a similar opinion; and I learnt from him that he has known of two cases of servants—one at the Molde asylum and one at Bergen—having contracted the disease while in attendance on lepers. He knows, too, of many other instances which can be, at any rate, most satisfactorily explained by the theory of contagion.

Dr. Phillippo, of Jamaica, gave me last year his opinion as follows: "It is communicable by contagion. This has always been the opinion amongst most of the laity, and with some reservation, amongst many of the medical profession. Of late years I have known some most undoubted cases of contagion, and yet there have been many instances of relatives who have for years lived in daily intercourse of the freest kind, as parents and brothers and sisters, who have not suffered, and a small number of those who undoubtedly have. . . . . I know of cases where there was no hereditary disease, in which one member of a family has taken it from another. In one case, the husband, a European, took it from the wife. In him it ran a rapid course, and he died before her, though she had it for years before him. I know of cases in which this disease has been taken from outsiders, and have heard of others in which it has been taken from the wet nurse."

It is interesting to observe that Dr. Phillippo is one of those authorities mentioned by Dr. Gavin Milroy[8] as being opposed to the view that leprosy is contagious.

Dr. A. R. Saunders (M.D. Lond., F.R.C.S. Eng.), one of the leading practitioners (for fourteen years) of Kingston, Jamaica, has recently informed me that he has no doubt whatever as to the contagiousness of leprosy, and that he has under his care at the present time in Jamaica several cases which can only be explained by the theory of contagion. He ridicules the idea of a fish diet having anything to do with the disease.

Dr. Blanc, of New Orleans, states in the paper quoted, his belief, after a study of these forty-two and other cases, "that leprosy may be communicated from a leprous to a non-leprous person by means of a specific virus, which acts like a specific poison of syphilis, depending upon thin or denuded surfaces for its absorption, and which remains potent, very probably, for an indefinite period of time."

The doctors in the Sandwich Islands are all (and have been with one exception, Dr. Fitch, report, Honolulu, 1886), believers in the contagion of leprosy; as are many of those at the Cape, in India, in the West Indies, and elsewhere. Dr. G. H. Fox, of New York,[9] indeed says, "Now it is generally admitted by those who have most studied the facts of the case that leprosy is a contagious disease." He further remarks that "granting leprosy is contagious, we are forced to admit that it is so only to a very limited extent." Most people will concur in this.

Some of the ablest observers are still keeping their minds open on the question. Dr. Beaven Rake writes that he has met with no case of contagion in Trinidad, but that he can bring forward many negative instances. His inoculation experiments on animals, too, have been so far unsuccessful—as were those which were formerly practised on the human subject in Norway, in Mytelene, by Bargilli, and more recently in Sicily by Profeta. Even Arning's experiment on the convict at Honolulu, is, in Dr. Rake's opinion, not conclusive. This man, Keann, was inoculated September 30th, 1884, by Dr. Arning, "after having previously made a most searching inquiry as to any leprous taint in his family, and a close examination of his own body," which examination, says Dr. Arning, "satisfied me that, so far as I am able to judge, no trace of the disease could be found on him at that time.[10] Dr. Beaven Rake's valuable "Report on the Trinidad Leper Asylum for 1888," has just been kindly sent to me by the author. In it, in reference to this inoculation, he says, "When, however, we come to examine this question dispassionately, what do we find? A man living on an island infested with leprosy, was inoculated three years' ago with the disease, and has now developed it. But in that time he may have acquired leprosy in a dozen different ways—in air, food, water, etc., or it may have been in his family. True, the man was ascertained so far as possible to come of a clean family, and he has been isolated in gaol since the inoculation. Still, anyone who has attempted to take the statement of lepers will appreciate the value of family history; and in a country where leprosy is rampant, are we sure that it can be shut out by four walls? I repeat what I said in my last report, that an experiment of this kind, to be scientifically perfect, must be performed in a country free from leprosy, and in an individual who has never left that country, and whose immediate ancestors have always stayed at home."

Mr. C. Macnamara, then of Calcutta, discussing in 1866 the Indian Reports on Leprosy, in an able article in the *Indian Medical Gazette*, stated, in addition to other arguments in favour of the view of its contagiousness: "1. A large proportion of the civil surgeons in this presidency believe, from personal observation, that the disease is contagious. 2. The instances quoted from this report can only be explained by supposing the disease to be contagious."

Any opinion, however, which was favourable to contagion prior to the year 1867 went for nothing, for in their celebrated and authoritative report of that year, the Royal College of Physicians of London, made the sweeping statements, so often quoted, that: "The all but unanimous conviction of the most experienced observers in different parts of the world is quite opposed to the belief that leprosy is contagious or communicable by proximity or contact with the diseased. The evidence derived from the experience of the attendants in leper asylums is especially conclusive on this point. The few instances that have been reported in a contrary sense either rest on imperfect observation, or they are recorded with so little attention to the necessary details as not to affect the above conclusion." More than 250 replies to the interrogatories of the College Committee have been received from medical men and others located in the various leper centres, and a large majority of these were undoubtedly in the negative with regard to the communicability of leprosy from person to person. Some thirty-two or so, on the other hand, gave a more or less affirmative answer in reference to the question, and several qualified men actually cited cases in support of their views—*e.g.*, amongst others, Drs. Aquart, of Granada; Manget, of British Guiana; Regnaud, of Mauritius; Jackson, Harris, and Messrs. Macnamara, and Rose, of India. On looking over the report, it is difficult to see why the opinions of these gentlemen, many of whom had

[8] In his report on Leprosy in the West Indies, 1873, p. 30.

[9] In his "Remarks on the Treatment of Leprosy," New York, 1885.

[10] Appendix to Report on Leprosy, Honolulu, 1886, p. 43.

been for years in charge of lepers, should have been, apparently, considered so unreliable and worthless, in comparison with the others. The college, it seems, did not modify its views for years; but in 1887 we learn that "the committee are quite aware that there is much difference of opinion respecting the communicability of leprosy, and that many colonial practitioners and inhabitants do not concur in the views expressed by the college in their report in 1867."[11]

There is, indeed, as the Committee now admits (April 7th, 1889), "increasing evidence respecting the communicability of leprosy;" and it seems to me that we cannot ignore the cases reported, and the opinions formed upon them by such qualified observers as Vandyke Carter in India, Peterson and Münch in Russia, Besnier, Vidal, Leloir, and Cornil in France, and by many others of large experience and of high repute in all parts of the world.

In point of fact, however, any circumstances whatever—however strong they may be—which apparently lend support to the contagion theory, so long as they occur in a country in which leprosy is prevalent, are liable to be laid aside with some such "begging the question" remark as, that "after all it only amounts to this, that a person has become a leper in a place where the disease is endemic!"

In conclusion, I venture to express the opinion—after a somewhat extended study of the subject—that, with the facts at present at our disposal, it appears to be a pure assumption, unsupported by valid evidence, to say that leprosy can *only* gain a footing in the human body *per unam viam*.

Dr. Gavin Milroy, the secretary of the committee which scouted the idea of contagion, said, after his visit to the West Indies, that "leprosy appeared to him to be neither more nor less contagious than scrofula." We have no reason to assume that it may not be introducible in as many ways, although, perhaps, with much greater difficulty. The problem will, possibly, be fully solved when we know the whole life history of the microbe which is characteristic of the disease.

THE PROGRESS OF MEDICINE AND MEDICAL EDUCATION.[1]

By Claudius Galen Wheelhouse, F.R.C.S.,

President British Medical Association.

Life, as measured by the standard of the space of time allotted to each unit of the human family, is but a little span. Man has not reached his present condition of intellectual, of moral, or even of physical greatness in one generation; the white cliffs of Albion, in their formation, mark not only generations but æons in the progress of creation. Rome was not built in a day! So medicine, as she stands to-day, strong by the acquirements of her children of many generations, did not arise upon the world in the full glory of a heaven-born science; but, sifting grain by grain of her faith from the speculations laid at her feet by her followers through countless ages, has, little by little, built up the temple of her fame until it has assumed the proportions in which we now behold it, and of which we are the accredited custodians.

THE MEDICINE OF THE EARLY AGES.

Sometimes, in the current of events, her progress has been laboured and slow; with halting and uncertain steps, with Arabian mythologists, astrologers, and such like visionaries as her companions, she has picked her way through gloomy times of mystery, uncertainty, and doubt. At times the light of truth has shone upon her path more brightly, and has cheered her on her way; and with the Harveys, the Sydenhams, the Jenners, and the Hunters, the Dupuytrens, Laennecs, and Pasteurs of the world for her companions, she has walked with firmer steps, until at last she has become an acknowledged power, and stands forth as the companion of even the exact sciences. Each generation of her votaries, as it passes across the stage of the world's history, is henceforward bound to leave a mark behind it as its contribution to the sum of existence, and that mark must, in the aggregate, be the result of individual efforts. I can look upon the broad roll of this great association, and can see there names that will never die—the names of men whose achievements will never perish, who, when they sink as their predecessors have done, to their rest, will leave, as Harvey and Jenner left in former times, a priceless inheritance to mankind at large, whose labours will not have been in vain, and of whom the world will acknowledge that the talent intrusted to them has been productive of abundant fruit, that of a truth they have left the world better and richer than they found it. I can see hundreds of others who are aiming at this high standard, who by their individual labours are raising the great tower of knowledge, and whose lives, though not illuminated by the torch of genius, will yet leave behind them the undying results of patient labour in well-doing; and I see, in all, the roll of a great brotherhood, strong in their efforts to advance the common weal, and doubly strong in the strength of union.

THE LEEDS MEETING.

You, by your unfailing kindness, have on many occasions so brightened my life that I should be ungrateful indeed if, on an occasion such as this, I failed to offer you my warmest and most grateful acknowledgements and thanks. On one occasion you placed me at the Council table of the Royal College of Surgeons; on another you sent me as your "direct representative" to the General Medical Council; for three years you placed the highest interests of this great association in my hands as your President of Council; and now, on the occasion of your third visit to our town, you have done me the supreme honour of asking me to fill your presidential chair, and to undertake the conduct of what I sincerely trust will be a great and a successful gathering. On behalf of the profession of Leeds and the district I most heartily bid you welcome. I join my fellow-townsmen and our neighbours in adjoining towns who desire to share with us the pleasure of receiving you, in the hope that the week you are about to spend with us may be a happy one, may be productive of scientific benefit, and may prove of social value; that the arrangements we have made for your comfort may work well, and may conduce to your enjoyment. To us your acceptance of our invitation and your presence among us are matters for great rejoicing, and we sincerely hope that, when our meeting is over, you will still hold Leeds in the esteem we prize so highly. The bill of fare we have provided for your enjoyment will meet, we hope, with your appreciation and approval; and if we have ventured upon the introduction of some few novelties and variations in the usual plan of the annual programme, we have done it

[11] Vide "Leprosy Committee Report," *R. C. P.*, July 15th, 1887.

[1] Abstract of the Presidential Address, Leeds meeting of the British Medical Association, August 13th, 1889.

in the sincerest hope that we may thereby advance and increase the interest of your sojourn among us. My duty is an easy and pleasant one.

I am precluded from speaking to you on any of the directly special subjects with which we are called upon, whether as physicians or as surgeons, to deal. Medicine will be discussed, and all that can be said of it will be brought before you by one of the leading physicians of the day; and in Dr. J. Hughlings Jackson you will find an exponent to whom you will join me in listening with hearty interest and attention. Surgery, and the progress it has made and is making, will be dealt with by my friend and colleague, Mr. T. Pridgin Teale; and for, I believe, the first time in the history of the association, an address in psychological science will be offered you, and this we have placed in the very able hands of our former tried and ever-welcome friend, Sir James Crichton Browne. Our sections will be presided over by men who, each in his own department, will tell us all that it is necessary for us to know to keep us abreast with its latest and highest developments, and, as individuals, you will have an opportunity, in the discussions which have been arranged for you, to bring forward any special matters with which you wish to deal, on which you may personally wish to be heard, or to impart to us any information which you have acquired or have worked out. To do this has ever been, and is still, the great object of our association; and who can calculate the advantage that has accrued to us, as a profession, from the accumulated labour of the fifty-seven years during which it has existed?

THE COMPARATIVE ISOLATION OF PRACTITIONERS IN FORMER TIMES.

We, in comparison with preceding generations, have been possessed of advantages of incomparable magnitude, not only in our own, but in every other science also. Knowledge and the facilities for the spread of knowledge have so increased that comparison is almost impossible. Think for a moment of the changes one generation only has seen! What great discovery can now be made that does not instantly become the property of even the remotest nations of the world, and is not, by an omnipresent press, brought to the personal knowledge of every votary of science? What did the surgeon of fifty years ago know of the powers of "germs," of "bacteria," of "bacilli," and of their capability to destroy his most elaborate and perfect work?

And where is the student of surgery of the present day to whom they are unknown, or who is unprepared to do battle with them, one and all, and to baffle or to modify their evil influences? What the medicine and surgery of the eighteenth and preceding centuries were, we are only able to conjecture. Its medicine we believe to have been little more than an empiricism founded on close observation, and led by a few master minds; and its surgery we know was crude, and, as compared with that of to-day, was even barbarous and cruel, and few of us I imagine would care to witness a major operation, as then performed, by even the most renowned and skilful surgeon. But the light, even then, was breaking, and not many years of the present century were to run ere truer principles of both medicine and surgery were to be made known to the world, and each was, as a science, to be established on a surer foundation than any on which it had hitherto rested.

THE GENERAL PRACTITIONER OF THE EARLY PART OF THE PRESENT CENTURY.

Let me endeavour to draw a sketch of the average practitioner of the commencement of the present century, and there may be some, at any rate, in this room, who can follow me and judge whether I paint him correctly, or whether, trusting too much to tradition and report, I do him injustice.

He was usually a hard-working industrious man, who thought little of bodily exertion, and who spent the greater part of his time in his saddle, which was his only way of getting about the country; a hard-thinking man, but one whose mental training had not been great, nor his education elaborate; whose opportunities for the acquisition of professional knowledge had been few and short; of whom it might be said that that which he knew was, in the main, either the fruit of his own observation, or of his own observation added to the traditions of the place or practice in which he had been brought up.

Knowledge and practice alike were purely empirical with him, and though he could treat disease with skill, and could, in most cases, give a good account of his warfare, it was purely by empirical means that he did it. His great panacea for all ailments was blood-letting, and his pocket was never unarmed with the all-potent lancet.

As a Physician.—No matter what the case might be, so long as it was "acute," venesection must precede everything else; then followed a superabundance of mixtures, powders, draughts, pills, lotions, and so forth, with which he hoped to effect a double purpose, first, to cure his patient, and secondly to remunerate himself for his attendance; for, so trifling were the charges he was able to make for his personal labour, and at so low a rate was that estimated by his patients, in comparison with the amount of medicine he gave them, that, except for the additional charges made for it, his remuneration would have been infinitesimal. He had a good sound knowledge of drugs in general, and of what they could do; he was sadly too ready to rely on them, and his patients were compelled not only to swallow most nauseous compounds, but to swallow them also in inordinate quantities. Of the morbid anatomy of disease he knew something, but not much; of pathology, in its true sense, he knew nothing, for physiology, whether healthy or morbid, was not one of the sciences of his day. When he "walked the hospitals" for the few months required of him, he saw a few *post-mortem* examinations, and had the opportunity to mark the ravages and the appearances left by various so-called diseases, and these he was apt to regard as the diseases themselves. His treatment was chiefly based on nomenclature; he could tell you what was good for "fever," what for "tic," for "rheumatism," for "indigestion," for "scurvy," and for innumerable other complaints; and he who was believed to possess the greatest number of formulæ for the greatest number of complaints was regarded as the cleverest and most desirable doctor.

As a Surgeon.—As a surgeon he was, as a rule, further behind the practitioner of to-day than he was as a physician. His education, such as it was, had taught him to rely, in this branch, more on the skill of others than on his own. There were certain men, well-known in their several districts as the men to whom to appeal in cases of surgical emergency, and they were the men who made world-wide reputations.

Leeds possessed one such surgeon, whose name was known, not only in every hamlet in Yorkshire, but, even in

that day, all England over, William Hey; and we are proud, even to-day, of that reputation, and that we possess a statue of him which, while it points the moral of the fame to be attained by industry, ability, and rectitude, is an ornament also of the noble hospital which enriches our town, and of which he was one of the founders.

What William Hey was to Leeds, Sir Astley Cooper and many others were to their London *confrères*; and so, scattered all the country over, were there others to whom, in times of surgical emergency, or for great surgical skill, the country practitioner was wont to look, and as a natural consequence surgery remained an art but little cultivated by the general practitioner. Nor for this was the practitioner alone to blame.

SURGICAL OPERATIONS IN FORMER TIMES.

A surgical operation in those days was an ordeal of fearfully different magnitude to anything known to us to-day, and, naturally enough, the patient had a large say in the matter. Confidence in operations themselves and confidence in the skill of the operator were not then what they are now, and it must be remembered that when, as the only means of escape with life, an operation had to be performed, it had also to be endured in all its unalleviated agony. Courage and endurance, unfortunately, are not given alike to all, and many a life which would be saved to-day was at that time voluntarily laid down, not simply for want of faith in the capability of the surgeon, but from sheer inability to face the terrible ordeal of bodily suffering involved.

APPRENTICESHIP.

The practitioner was not called upon, on entering the profession, to prove himself in any way specially adapted for it. It mattered not what his education or want of it had been, no test was required of him. In the majority of cases he was, as it were, in a manner born to the position, as well as to the particular practice in which he was destined to take part; and, under any circumstances, he was called upon to serve an apprenticeship so prolonged as to be almost the same thing.

For the first five years of his professional life, he was compelled to devote himself to what seemed, perhaps, at the time, the simplest and most abject drudgery; but at the same time he picked up, all unconsciously it may have been, but none the less certainly, knowledge destined to be of infinite value to him in after life—the knowedge of common diseases; and when, after his few short months of hospital experience he entered on practice, he did so with a fair all-round idea of its ordinary requirements, and he trusted to extraneous help in emergencies and unusual difficulties.

So, taking him for all in all, our forefather in the early part of the century was pretty much what the times were calculated to make him—a shrewd, keenly observant, self-contained, and self-reliant practitioner, whose education, whether general or professional, had been but scanty, whose means of intercommunication with his fellows were few, and whose professional position and value were very much what he himself chose to make them. That he did excellent work in the world no one will be willing to deny; and we, who are endeavouring to carry on and improve upon his efforts, should be the last to deny him the meed of praise he so abundantly earned.

THE MEDICAL SCIENCE OF THE PRESENT DAY.

That the medical science of our time is in advance of the time of which I have been speaking is beyond question, and that the effects produced by increased knowledge and research have given advantages to the world of indescribable value, no one will deny. In a large measure it is due to our possession of vastly improved instruments of precision. To our ancestors the revelations the microscope has made to us were but a dream. They could theorise and argue and believe, but the things upon which they could only theorise and argue and believe are living verities to us. To them the existence of a *materies morbi* was only an argument, whereas now, we know not only that the causes of many diseases are indeed material, and even tangible, but that we are able to demonstrate and see them, to recognise their individuality, their specific forms, and the phenomena of their growth, propagation, and development. I call to mind a story of two great Scotch professors—the one a theorist, the other a materialist. The materialist would argue that certain forms of disease must be due to the presence of germs, and were the direct results of their development, propagation, and multiplication; and the theorist would cry, "Hero is your microscope, show me but one of the germs and I will believe; but, until you do, I cannot," and being unable to do this, his friend could only fold his hands and wait patiently, hugging his belief meanwhile, but with the conviction of certainty none the less. Gentlemen, picture these two professors now[2] if they could meet, and know only as much as we know of bacteriology, and of the field of germ pathology. And meanwhile, yet another Scotch pathologist, as fully convinced as though he could see or had seen the whole range of modern pathological development, so ponders the theory, and acts upon what he believes its possibilities to be, that, at last, he lays at the feet of his profession the whole science of antiseptic surgery. So, in like manner, and little by little, the microscope has revealed to us many of these hidden mysteries which constitute the whole science of physiology, has shown to us the beauties of capillary and lymphatic circulation, has enabled us to understand and comprehend the processes of absorption, of disintegration, and of recuperation, and has placed at our disposal the key to mysteries of which our predecessors could have but faint imaginings, but which we know, and know with a certainty which constitutes our knowledge. Thus medicine and surgery have alike been founded on a rock of knowledge from which they can never henceforward be dislodged. And so, by other instruments of precision, barrier after barrier has been cleared away, and we now see clearly where heretofore we had only seen as "in a glass darkly" and unassailable stores of knowledge have thus been placed at our disposal. What shall I say, for instance, of our advance along the pathway opened up to us by electrical science? Is not this alone one which, uncomprehended in former times, has enable us to build up knowledge of phenomena, without which the infinite intricacies of the action of the nervous system must have remained shrouded in profound darkness, and out of the chaos of former mysteries to see, clearly defined, order and law where ignorance, hypothesis, and mystification formerly had reigned supreme? And while physiology has thus grown into a true science, pathology has also advanced with equally rapid and giant strides. And so, with ceaseless patience we endeavour to track down mischief to its origin and birth. Year after year our patience is rewarded by fresh discoveries, and thus, each year. the tree of knowledge puts forth fresh

[2] Professor J. Y. Simpson and Hughes Bennet at the last meeting in Leeds.

shoots and brings us a more and more abundant yield of goodly fruit. Advances, however, of such kinds as these, and in such directions, do not in my opinion, constitute the chief or highest glory of modern medicine.

PUBLIC MEDICINE AND THE AIMS OF THE PROFESSION.

A common reproach is often brought against both medicine and its practitioners that it is a sceptical profession; that its practitioners are essentially materialists in their view; that medicine, as a science, leads to free thinking, and seeks, in a rational explanation of every fact with which it is brought into contact, to undermine our belief in things spiritual, and to lessen our faith in all that we cannot see, and handle, and account for; that constant contact with pain and suffering tends to numb our sympathy and to diminish our pity for the sufferings of mankind. On this point I would venture fearlessly to challenge any other calling or profession to produce a parallel to the modern development of "public medicine," a science which seeks ever, even at the risk of its own extinction, to exterminate the causes of disease and death, and to eradicate from the world the very springs and sources from which they arise. "It is a common-wealth sustained and governed by the desire existing in the minds of each of its members to do as much good as possible to every other member. It looks upon prevention as better than cure, and asserts, as is now clear to all, "that a large part of human suffering is preventable by improved social arrangements," and sets itself the task of sweeping away all such preventable causes. Its compassion is all the deeper, its relief more prompt and zealous, because it does not generally, as former generations did, recognise such calamities to be part of man's inevitable destiny; and it hurries with the more painful eagerness to remedy evils which it feels ought never to have befallen. Our Great Example commanded his first followers to heal the sick and give alms, but He commands us and all His followers in this age to investigate the causes of all evils, to master the science of health, to consider the question of education with the view to health, and while all these investigations are made with free expenditure of energy and time and means, to work out the re-arrangement of human life in accordance with the results they give; and if, instead of undoing a little harm, and comforting a few unfortunates, we have the means of averting countless misfortunes, and raising, by the right employment of our knowledge and power of contrivance, the general standard of happiness, we lessen the necessary evils of life, lengthen the term of human existence, wipe out the causes of innumerable griefs and sufferings, make life more endurable and happy, can it be said that we are failing to obey the commands or to undermine the teaching of our great Master?[3]

Can it be denied that these are among the chief aims and objects of our profession in this our day? Is not every community provided with its officer of health? Is not disease of every kind assiduously and ceaselessly tracked to its hidden birthplace? Can an epidemic now run riot as it did in former times? or devastate a whole country, as it formerly was wont to do? So, then, in our daily life as the servants of our fellow-creatures, in our eager race after improvements, in our efforts to spread abroad over the earth the results of the knowledge we attain, I hold that the practitioners of medicine of the now closing century have not been left behind in the race of life; that we have won our laurels, and have been faithful to our trust. And as we exult in the progress we have made, and are humbly thankful, so let us hope will those who follow after us, outshine our accomplishments, and leave us in turn very far behind them in knowledge and in power for good.

[3] See *Ecce Homo*, chap. 17, "The Law of Philanthropy."

MEDICAL EDUCATION IN THE PAST.

But, on an occasion such as this, and with such an assembly for my audience, I cannot refrain from discussing, or attempting to discuss, a question which, while of deep interest to us, is of vital importance to those who will succeed us, namely, the medical education of the day. Are we doing the best that can be done for the practitioners of the future in our method of training them? The answer to this question involves an inquiry which must at any time be a formidable one, and one which to many people seems almost, if not quite, unattainable.

"Quot homies tot sententiæ;" in every large gathering of medical men opinions will be found at variance on the subject, and yet, untill something like general accord can be attained, it is hardly to be expected that the difficulty will be overcome, or a safe solution be arrived at. During the last fifty years the knowledge to be acquired by medical men has increased a hundredfold, and the educational status of our students has, of necessity, been correspondingly advanced. In the early days of which I have been speaking no educational test was applied to those who desire to enter the profession; candidates might be almost devoid of education, and many were of so rough and uncultivated a class as to bring on the medical student a very unenviable notoriety. Happily this difficulty has been amended, and the students of to-day are represented by a body of youths of whom the country may be reasonably proud. The medical student of to-day is usually an industrious and steady man who not only seeks sound information from recognised sources, but who is given to investigation on his own account. His time is, on the whole, devoted to its proper objects; he takes work seriously, and small blame to him if, now and then, he takes his pleasure hilariously, so long as he ever remembers that he is a gentleman, and is qualifying himself to carry the colours of a gentlemanly calling.

"All work and no play makes Jack a dull boy" in medicine as in everything else, and medicine does not want dull boys among her followers, and the student of the present day usually turns out a thoughtful, studious, and observant man, well trained for the work of his profession. But he needs certain practical and mental qualifications, qualifications possessed by his predecessor, but still to be picked up, so far as he is concerned, during the early years of active practice, and which are not to be attained in any other school than that of serious and anxious responsibility.

Fifty years ago our plan of educating such a man was this. For five years after leaving school he was compelled, as an apprentice, to begin at the beginning, to learn, while his mind was teachable, the A B C of his profession, to watch and observe the practice of his master, and to pick up in a general way the reason why of all that he saw done. When old enough, and qualified to do so, he was often permitted and encouraged to try his prentice hand himself, and to help in many ways under the guidance of his superior. Then he was sent for three years to a hospital or medical school, and there by the study of elementary chemistry, of materia medica, of medicine, of practical anatomy and surgery, by lectures and clinical instruction

at the hands of able teachers, both medical and surgical, he was shown the best of all work done in the best possible way, and he thus obtained a ground work of knowledge and information sufficient to make him a safe practitioner of the town, and capable of any amount of expansion in the future.

MEDICAL EDUCATION IN THE PRESENT.

Year by year and little by little we have been accumulating a burden which, if not absolutely more than the shoulders of a youth can bear, is yet heavier than he can possibly carry with credit; and instead of increasing his opportunities to acquire the strength necessary to bear it, we have curtailed his time, have deprived him of material advantages, and, in accordance with the hurry of the age, have demanded results well-nigh impossible of attainment. The five years of apprenticeship have been swept away, and with them the opportunity to master the groundwork of medical education and to acquire a sound knowledge of the more common forms of ordinary illness has gone also; and in four years, instead of eight, we permit the whole work to be completed. We have determined to ignore the utility of that homely but infinitely useful form of preparation for the higher parts of medical education which apprenticeship or pupilage was pre-eminently calculated to afford; we have determined that from the day on which a boy has been able to pass a very ordinary and limited educational examination he shall be permitted to take his place in a medical school, and we have arranged a curriculum which, if by dint of slavish toil he can master, shall enable him, at the early age of twenty-one, to enter upon the full responsibilities and duties of practice.

THE GREAT BURDEN OF MODERN EXAMINATIONS.

We demand of him that he shall pass at least four examinations. One in general education; then a preliminary one in his professional subjects, at the end of his first year of professional study; a "primary" and a "pass" examination; and to make this the more easy to him we permit him, if he wishes to do so, to split up these four examinations into eight or even ten, and by clearing them off in fragments, we give him the opportunity to dismiss study after study from his mind with a rapidity which leaves scarcely a trace of them behind, and enables him to forget them, one after another, with a facilty which, if the mere capability io pass examinations were the only end and object aimed at, would be commendable enough; until at last there only remains the one final test, at which, by a supreme effort, he may show that he has attained a sufficient amount of theoretical knowledge to satisfy his examiners, and that he has acquired a fair comprehension of the principles which underlie his future work. That even this is impossible, or nearly so, is abundantly proved by the fact that in a large majority of cases men voluntarily, and in many more under the compulsion of failure in the earlier examinations, devote five years instead of four to their education, and find that even then the task has been almost more than their powers could endure. To make up for deficiencies which even to themselves are then only too apparent and too keenly felt, hospital appointments, whether paid or unpaid, are eagerly sought for and accepted; or, failing to obtain these, men seek for themselves assistantships in which they may obtain that practical knowledge which only work under the guidance of experience can give them, and for lack of which they feel and know that they are unfit to cope alone with the responsibilities of practice. In one thing the new system is unquestionably superior to the old.

It takes its stand upon a higher grade of education, both general and professional; and of two men educated, one, on the old, and the other on the new plan, when they have been equally for a few years in practice, the latter will probably be the better practitioner of the two. He will then have picked up what the other had already acquired to begin with, and will henceforward easily distance his competitor in the race. But I do not envy him the experience of those first five years.

UNQUALIFIED ASSISTANTS.

The General Medical Council, with a laudable desire to diminish the evils of unqualified practice, has determined as far as it is possible to put down the employment of unqualified assistants, and it thereby unquestionably aids the young and recently-qualified practitioner in his attempt to complete an education which ought to be complete already. But there are two sides to this question, and it has to be regarded from the point of view of the employer also. He, when engaging an assistant, is presumably seeking the service of one who will be a help to him, and not of one who, though nominally an assistant, is in reality a pupil, and who, though he be very learned in all the highest wisdom of the schools, is startled by the appearance of so extraordinary a rash as that presented by "sudamina," for instance, and who, though he can tell an examiner glibly enough the number of days necessary for the incubation of varicella, rubeola, variola, or scarlatina, and all the theoretical details concerning the history, course, complications, development, and sequelæ of these various diseases, is "not quite sure," when he sees them, which is which, and would, therefore, like his principal to see them before he ventures upon their treatment. This is not an overdrawn or fancy picture; it is a sketch from life; and although, happily, it may not be an invariable one, nevertheless it is one we elders in the profession not infrequently see, and which makes us just a little sceptical as to the superiority of modern over former methods of education. It happened to one of my colleagues not very long ago, when called into the country to perform the operation of lumbar colotomy, to be provided with the assistance of a gentleman of this order, who, when requested to administer an anæsthetic, was compelled to admit that he had never done such a thing in his life, that he knew nothing about it, that he has never passed a catheter, or drawn a tooth, and yet he had passed the examinations.

I know there are many men who feel strongly that this is the time when pupilage would be most advantageous, and in the discussions of the Education Committee of the General Medical Council, as well as elsewhere, I have heard it strenuously argued; but the view is one which does not commend itself to my judgment, and which a long course of observation has not tended to confirm.

TIME FOR PUPILAGE.

I hold that the time to acquire simple information is when the mind is eager, inquiring, impressionable, and plastic; when mistakes and failures are of comparatively little momoment; when a little wholesome ridicule may be borne with equanimity, and when lessons which are the outcome of inexperience leave well-defined impressions on the mind which serve as warnings and landmarks at a future and more important age without any bitterness or sting in their remem-

brance. In later life, especially at that particular time of life when a young man is, perhaps pardonably and not unreasonably, a little elated and puffed up by having passed all his examinations, such failures, and the rebuffs they bring in their train, are neither so well borne nor so productive of advantage, and they constitute an evil which may be avoided.

In our large county hospitals, workhouse infirmaries, and public dispensaries, which, up to the present time, have been but very slightly utilised, we have a splendid field in which a vast fund of information of this kind, which now runs to waste, might be gleaned; and of these I would make much greater use than has hitherto been the practice. In pupilage, in one or other of these, in my humble judgment a year, or even two, at the commencement of professional study, would prove the very best beginning; and in following the practice to be there seen under the direct guidance and supervision of those who administer them, a youth would see work which in after-life would be of incalculable value to him, and would obtain opportunities for a groundwork which, under the present method of education, are wholly thrown away.[4]

MODERN EXAMINATIONS.

I would earnestly plead also for a radical change in our modern system of examinations. That they are capable, as at present conducted, of great improvement will, I think, be very generally admitted.

Their Inadequacy.—That they fail in their essential object—the discovery of those who are fit and of those who are unfit to enter upon the responsibilities of practice—is undeniable; and, while I admit that the effort to do this is always conscientiously and most praiseworthily pursued, I am satisfied that they often—far too often—wholly fail in the attainment of their intention. During a long career as a teacher, systematic and practical alike, I have watched with the keenest interest the success or failure of those whom I have trained, and many and many a time my heart has failed me when I have seen those whom I have known to be conscientious, painstaking, and thoroughly well-informed men sent down, while others, of whose records I should have been sorry to speak, have passed with flying colours.

Their Great and Unnecessary Multiplication.—I have already spoken of the number of examinations—"an appalling number," as they have been publicly called by my friend, Mr. Teale—demanded of the modern medical student before he can claim to be placed upon the *Medical Register*, and I pray you to consider with me for a few moments what they involve.

Their Costliness.—For each one his presence in London or at one of the capitals of universities of the kingdom is necessary; and divided as they are into "written" and "oral" and "clinical," think of the terrible waste of time and of money that is expended upon each. Take the simple instance of one, the "primary" at the united colleges. The candidate must go to London, and submit himself first to the ordeal of a written examination. This he has to do against time and under most unfavourable conditions. A certain number of questions are given to him on a printed form, and he is told that within a certain definite time he must have answered so many—not necessarily all, but a given proportion—and that unless he can succeed in doing that he need trouble himself no further.

The Hurry and Worry under which they are Conducted.—Thus he is compelled to think against time and to write against time. He has no opportunity deliberately to marshal either his knowledge or his facts, or to consider how he can show them to the greatest advantage. He scrambles all he knows of any given subject, or can hastily call to mind, into his paper, and, whether it be ill-written or well, he must abide the consequence! And to how many does it not happen that the moment the ordeal is over, the paper irrevocably handed in, the overstrain relaxed, that there rush in upon the memory many points overlooked or forgotten that would be joyfully added if it were possible. But that cannot be; he must be content to be adjudged ignorant of those things which he has not actually written, and must abide the decision of the examiner with such patience as he is able to command.

The Ordeal to the Examiner.—Then comes the equally terrible ordeal of the examiner, whose duty it is within a certain given numbers of hours or days, as the case may be, not only to read oven the papers handed in to him, but to adjudicate upon the value of each answer. In public discussion of the subject of "examinations" generally, recently held in Leeds, Mr. Teale told his audience this startling fact—namely, that a young examiner had confided to a near relative of his the information that he had to look through fifteen hundred sets of answers in a fortnight, and that they would have to be done at the rate of five minutes for each paper! Meanwhile, the candidate, though his effort may have fallen far short of the standard required, is not—probably cannot—be informed of his failure; he is still required to present himself for the *vivâ voce* portion of the examination, and for this purpose either a journey home and a second to the seat of examination is necessary, or he must stay where he is until his fate has been decided.

AN ALTERNATE SCHEME.

Years ago I suggested to the Council of the College of Surgeons that much, at any rate, of this difficulty might be overcome by conducting the written portion of the several examinations at the seats of teaching, as is done with the university local examinations. The question papers could be forwarded under the seal of the examining body to the official in charge of the local examination room. The seal could there be broken in the presence of the candidates, and the examination could be so safeguarded as to render collusion as impossible as in London or elsewhere. To the candidate such a time as he felt that he honestly needed could be given, and the element of hurry, at any rate, so far as he is concerned, could be eliminated. The answers, when handed in, could be sent, again under seal, to the examiners with absolute safety, and all this at an almost nominal cost. The examiners, in their turn, could take reasonable time in which to form an accurate judgment of each set of papers; and last, and most important of all, those of the candidates who so entirely failed as to make all hope of their passing an impossibility, might be informed that that was so, and that their presence for further examination was not, on that occasion, necessary. By this plan time, labour, money, and heartburning would be saved, and a feeling of justice and fairness, unquestionably lacking

[4] In the Leeds Public Dispensary alone last year 36,046 patients were examined and prescibed for, and 19,118 visits were paid by the members of the staff to patients in their own homes.

under the present system, would be engendered; and, as with this, so the same proceeding could be carried out with all the other examinations. And yet, as examinations are at present conducted, one great thing would be lacking; they would lack any guarantee of the possession by the candidate of that practical knowledge which we some of us feel to be the great want in modern medical education. This I, if I could have my way, would thus supply. I would make the first step in the purely medical part of the curriculum a year, at any rate, of practical pupilage. So soon as the "preliminary" or education examination had been passed, I would insist that the next step should be residence for one year either with a general practitioner, or as a pupil at a county hospital, or in connection with a recognised public dispensary, where, under the observation and guidance of the acting officers, the pupil might see, day by day, the general run of every-day practice, and would become familiarised with the common ailments of daily life as seen in the homes of the people; where he would become acquainted, and that practically, with all that he would be called upon to undertake, or would meet with in the early years of actual practice; where all the simple and minor operations of surgery would be seen and learned in the best, because most practical, manner. Then I would send him for four, at least, full years to a medical school and hospital to learn the why and the wherefore of all that he had already picked up, and to learn all that is so admirably taught in those most admirable schools. I would not permit him to fritter away his examinations in scraps, but, at the end of the second year, I would institute one, full one, to embrace all the preliminary studies which had occupied him so far, and, by delaying all else to the end of the curriculum, I would compel him to keep all his knowledge well in hand, and would then institute such a full and complete examination, both theoretical and practical, as should be an indisputable guarantee of his possession of the requisite knowledge to make him a safe and reliable practitioner. This is done now in Germany, and the example is one we should do well to follow.

At that examination I would also have placed in the hands of the examiners a minute and careful analysis, drawn up by the teachers, of the character of every candidate; this should be accompanied by a certificate of his pupilage, and should declare, on the responsibility of those under whom it was served, that he had been made conversant with daily out-door practice, and had himself performed the common operations of minor surgery. At any rate, whatsoever may be the course that future examinations may take, I sincerely hope their number will be diminished, that they will become more and more practical in their character, and that they will be made to include a knowledge of every-day occurrences rather than of such as are likely to come but rarely under observation. Further, I confess to being sufficiently old-fashioned to desire to return, in a greatly modified form, to some system of pupilage, by which a true foundation may be laid, by an early acquirement of the knowledge of common things, for that vast superstructure which the medical practitioner of the future will be called upon to raise and carry.

THE FUTURE AND ITS WORK.

I have now endeavoured to recall to your memory the character, the achievements, and the capability of the practitioner of former times. I have shown you how infinitely greater is the knowledge and the utility of the practitioner of the present day. We know how he has brough every region of the body, even those which were formerly deemed wholly beyond the sphere of his influence, such as the contents of the cranium, the vital organs of the chest, of the abdomen, and of the pelvis, under the dominion of our science; that, by the institution of preventive medicine, he has swept away many of the approbria, and of the direst scourges of former times; and it only remains to indicate in very few words the still vast field of further utility that lies open for cultivation by the practitioners of the future.

There is one plague spot, I fear, which even he will fail to conquer; which will remain to fester, to kill its thousands, to maim, disfigure, and to sap the health of millions, of deserving and of undeserving alike, and, as the great curse of humanity, to baffle all our effort to arrest the progress of disease, and to render them futile and abortive. You know the curse to which I allude; the curse that steadily and vindictively pursues the track of licentiousness, of ungoverned passion, of hateful sensuality; and you will admit with me that so long as human nature remains what it is, and is left in unbridled possession of the means of gratification, no ray of either light or hope will fall on that dark track.

Some day men may have become sufficiently enlightened to submit to necessary legislation and restrictions on this and cognate subjects; but, until they do, the foul stream will continue to meander hither and thither, and whithersoever it will through the world of life; will poison its springs, will wither even its fairest blooms, and destroy its richest fruits without selection and without mercy. By the cultivation of bacteriology and cognate sciences, by a deeper and more profound acquaintance with natural phenomena and laws, I can foreshadow in my mind the time when the whole range of zymotic and exanthematous diseases will have been subdued and conquered; when the seeds of each will have been isolated, and so studied that their individuality will be recognisable; the soils in which they will grow and those in which they will lie sterile will be known and appreciated, and be brought under cultivation by the hands of the medical men of the day; when the methods of dealing with them will be such that they may be reduced to harmless quantities; and when, by the spread of sanitary science, the whole human race may be protected from their evil influences. It will not be in our day that these mighty triumphs will be won, but our successors will undoubtedly achieve them; and the time will certainly come when the kingdom of disease will be so closely narrowed down that only the necessary accompaniments of the changes and vicissitudes of natural laws, the evils attendant upon the wilful disobedience of those laws, the innumerable accidents to which life and limb must be for ever liable, and the inherent defects and deficiencies in the harmonious working of the parts of a machine so exquisitely and delicately constructed as is the frail body which, for a time, we inhabit will be the only kingdom in which the professors of medicine and surgery will be called upon to exercise their sway. Then will the victory of our science be complete, and the day will have come when the world will be called upon to acknowledge that the labours of the physician and the surgeon, patient, enduring, untiring, as they have been through all time, have not been in vain, and have reached their final consummation.

Special Articles.

HEALTH RESORTS OF THE WORLD.

XXXV.—SWANAGE.

By W. Armstrong Willis, Monmouth.

Swanage is not so well-known out of Dorsetshire as it deserves to be, though it has long been held in esteem by the inhabitants of Dorset and their neighbours in Hampshire. The town itself is situated between Swanage Bay and Durlston Bay, the separation between the two bays being made by Peveril Point, and they are cut out of the most southerly end of that great curve of the sea which forms Poole Bay (in the centre of which is Bournemouth), and Christchurch Bay. Swanage is the chief town in the Isle of Purbeck, as this large peninsular district is rather incorrectly named. Besides the sea on the south, the large system of land-locked lagoons, known as Poole Harbour, form a barrier on the north of the Purbeck District, and cut it off from direct land communication with Poole, Parkstone, Bournemouth, and Christchurch; to this isolation of position much of the charm of Swanage and the neighbourhood may be attributed. Of quite recent years Swanage has been connected by rail with Wareham and the South-Western Railway, and is now a most accessible place from London and elsewhere. By situation it is favoured with some peculiarities of climate. At a fair distance from the back of the town rise the Purbeck Hills, in shape like a horse shoe, and each extremity ending in cliffs; these protect it from the heavy inland and sea fogs which are undesirable features of much of the southern coast of England, and from which Swanage is therefore very free. The town is undeniably very picturesque, and from its older centre has thrown out streets of handsome modern houses radiating up the hills behind it; the old part, with its houses of soft-coloured, pearly-grey stone, and roofs of dark flagstones (splashed with patches of yellow stone-crop and house-leek), winds along the surface of the hills in pleasantly irregular undulations. The background heights and surrounding cliffs are covered with a short dark-green herbage, which stretches down to the yellowish-grey sands, and form a harmonious piece of tender neutral colouring throwing up the rich and sparkling tints of the sea, which seems to glow amidst its delicately toned surroundings, and to glitter like a gem.

The ancient tower of the parish church watches over the bay, stern, gaunt and four-square; it is probably some 600 years old, without buttress or ornament, and doubtless, as asserted, was built for a watch-tower and beacon. However, the coast's best protection in past years were its rocks on which, below Peveril Point, 100 vessels of the Danes were shipwrecked, and Alfred gained his victory 1000 years ago. Near the beach is a granite column commemorating this event, and bearing on its summit five cannon balls, surely a most irrelevant ornament; this column is not so hideous as an obelisk on the outskirts of the town to the inevitable memory of "Albert the Good." To see more of the place we must walk up through the modern streets of Swanage, which are as hilly as those of Bath, and guided by the profuse direction-stones let into every corner, find our way to Durlston Head. The land leading to it has been bought by Mr. George Burt, an ex-sheriff of London, and local benefactor. It is a wild piece of ground stretching west of Swanage, across the tops of the cliffs; here money has been lavishly poured out in preparing for coming building operations, which would seem to indicate intentions of rivalling Bournemouth at some future date.

Ten miles of walling have been built and five miles of fine broad roads made; millions of trees and shrubs have been planted in belts and patches. The place, naturally, is now looking scarred and in the rough, but it commands magnificent sea views. A road leads to "Durlston Castle," a huge and most solid structure built by Mr. Burt, on Durlston Head itself, at a level of some 200 feet above the sea This is being fitted up as a hotel, and on three sides of it has fine sea-views; with its terraces and platforms it is already one of the lions of the coast. Let into one side of its walls (going down towards the platform where the "great globe" is), are large boldly-carved slabs on which are set out the duration of the longest day in various parts of the world; the variation of time caused by longitude; the convexity of the ocean and other matters of scientific or practical interest. The "great globe" itself is certainly a most curious and original object; it is constructed of Portland stone, weighs forty tons and is ten feet in diameter. On it, in high relief, are carved the continents, oceans, etc., the benches surrounding it are placed in the proper positions of the various points of the compass and lettered accordingly. These singular ideas are carried out with great perfection; it having been found that holiday-makers were beginning to write their names on the globe, in their usual imbecile way, a large slab has been placed in the wall close by headed with this inscription: "Any persons anxious to write their names will please do so on this stone." This excellent suggestion might well be imitated by possessors of objects of interest which have a surface tempting to the ubiquitous excursionists knives and pencils. Leaving the globe, a broad gravelled path, cut on the edge of the cliffs and guarded by a low wall, leads down to the caves of Tilly Whim. A tunnelled entrance has been sunk by Mr. Burt descending into one of the caves and on to the shore. These caves were formed by the quarrying for Purbeck stone; from time immemorial till recently they have supplied the whole country-side with rick and sink-stones, and from here came the stones for Corfe Castle, an immense feudal fortress near Swanage. Stepping out of the caves one is struck by the magnificence of the great sombre rocky cliffs, and the boulder-strewn shore beaten by a sea, which at times leaps over it. The sight is most imposing, and does not need the Shakespearian lines carved in gigantic letters on the face of the rock to indicate its undoubted elements of beauty. But the Genius of the Place affects rock-inscriptions, and the "graffiti" of Durlston Head and Tilly Whim may puzzle future generations of antiquaries, and be finally classed with the Sinaitic. The caves have many stories attached to them, and were used by smugglers. The great Gulliver, that hero of all Dorset smuggling legends used them in the palmy days of the French War. He conducted his operations on the largest scale, and his memory still lingers amongst the old people. It is said that on his death-bed he attempted to keep the Spirit of Darkness from seizing him by barring up the windows, but in vain, for an old retainer broke the news of his death to his friends in the laconic words "He has got'un."

Above Tilly Whim is the Anvil Point Lighthouse, and further along the cliffs are Dancing Ledge and St. Alban's or St. Aldhelm's Head; here the scenery is very bold and fine, particularly so in stormy weather. The edges of the cliffs are rich in flowers; in July the great umbels of the

sea carrot (*Daucus maritimus*), of a colour between pale pink and light fawn, are very striking. Behind the light-house, in a space less than five feet square, the writer found no fewer than six of the British thistles—viz., *carduus nutans*, *carlina vulgaris*, *lanceolatus*, *acaulis*, *arvensis*, and *tenuiflorus*. If the district is botanically interesting, it is more so geologically. The Purbeck Beds are noted for their layers of fossil vegetable earth (dirt-beds), enclosing roots, trunks, and branches of cycoids and conifers, the beds themselves consisting of argillaceous and calcareous shales and fresh water limestones and marbles. The quarries of the famous Purbeck stone lie chiefly about Langton Matravers; they are several hundreds in number, and are worked according to demand for particular qualities of stones, the marble ridge being only worked from when wanted. The quarrymen are an exclusive and privileged race, the "Free Marblers of Purbeck" claiming a Charter from Edwardian days; birth or marriage are the only recognised means of entering this select society, which has its "officers" and "freemen." On Shrove Tuesday they transact their business, and formerly kicked a football from Langton, through Corfe, over the Heath to Ower; now the football is carried, and with it a pound of pepper to the Lord of the Manor, as an acknowledgment in respect of the way to Ower. A most interesting walk from Swanage is over Ballard Down to Studland, whence the finest possible view may be obtained of the silvery stretches of Poole Harbour, with darkly-wooded Brownsea Island lying in the midst of it. Studland Church contains some good Norman carving, and on one of the four bells in its tower is the inscription, "Draw near to God, C.P., 1605." At Standfast Point, beneath the Downs, on the way to Studland, is the curious rock called "Old Harry;" it is a square detached pillar-like rock, separated by a reef and a narrow channel from the main land. A mile from Studland, on a mound about 90 feet high, is the Aggleston, a great block of red sand-stone, weighing many hundreds of tons, the upper portion of it is overhanging, and to the whole a Druidic origin has been ascribed. Half way between Swanage and Wareham is Corfe Castle (already mentioned); it is one of the most extensive ruins in England, and beautifully situated on a very lofty green mound. Here Lady Bankes made her gallant defence against the troops of the Parliament, though she had at first but five men in the garrison, and at no time more than forty, till the siege was raised by the Earl of Carnarvon, August 4th, 1643. It was of her husband, Sir John Bankes, who was Chief Justice of the Common Pleas, that Lord Strafford wrote: "Bankes hath been commended that he exceeds Bacon in eloquence, Ellesmere in judgment, and Noy in law." Wareham is only a half-hour's train journey from Swanage, and has claims of great interest for an antiquary. On three sides it is entirely surrounded by ancient earth-works which are high and broad, and being covered with a short fine grass are most pleasant to walk on, and from them are pretty views of the old town, which is situated in a plain; the land immediately outside the earth-works is under cultivation, but shades off into wild, broken, heath-covered ground with a belt of jagged hills.

There are three old churches in Wareham, and the chief one has a remarkable east window; the chance passer-by cannot also fail to note the exquisite iron scroll-work which supports the signs of nearly every inn and public-house; the boldness, beauty and variety of this true art-work is quite equal to some of the best specimens which remain in remote parts of Surrey. The view from the bridge over the Froom is charming by its contrast of banks and meadows of green pasturage with fine trees, amid the rougher moorland landscape, across which Guthrum the Dane must have passed on his way to surprise and rout the few dispirited men who were gathered round the banner of the Golden Dragon. All these spots are within an easy reach of Swanage; as is also (by steamer) the Isle of Wight; Bournemouth, Christchurch, and Poole are easily visited, and the many villages in the Island of Purbeck have all their points of interest and fine scenery. In conclusion, of Swanage itself it may be added, that the gently-sloping, sandy beach offers first-rate bathing; there is a good hotel, and abundance of good lodgings, and the town drainage was carefully reorganised some two or three years ago. All these are very important additions to the attractions and healthiness of a place, which once visited and known is pretty sure to please and benefit one.

XXXVI.—LUNDY ISLAND.

By Alfred J. H. Crespi, of Wimborne.

It requires some boldness to include among health resorts the tiny island that shows up in the interminable waste of waters, west of Ilfracombe and Barnstaple, sometimes only a faint blue streak on the horizon, at others, looking, magnified by the mist, absolutely imposing and of vast but uncertain size. If one half the charm of a health resort consist in novelty, and the other half in uncontaminated fresh air, Lundy can claim a high place on the yearly lengthening list. As for novelty, I dare confidently assert that not the loneliest seaside village or the newest of new watering places can compare with it. All alone it stands in its glory, little affected by the flight of the centuries, innocent of trees, far beyond the sound of railways, and a few years ago, before the cable was laid, it still rejoiced in infrequent posts and in about as precarious communication with the rest of the kingdom as any place so near could have, and still remain part of the British Isles.

Visitors to Instow and Ilfracombe are generally fortunate enough, sooner or later, to catch a glimpse of the long, low line, far away on the western horizon, which they are told is Lundy. At a distance of twenty-four miles, it seldom looks more than a nebulous line, slightly raised above the water, although in some states of the atmosphere it towers above the water and seems quite near at hand; on closer approach it is seen to stand up grandly—a stupendous granite mass, four miles long, three-quarters of a mile wide, and from four hundred to over five hundred feet high.

Its configuration is singular, and its long diameter points nearly due north and south, while its eastern slopes, precipitous enough to make them interesting and romantic, are only one degree less striking than its western sides, where walls of rock rise in perpendicular steps, sixty and eighty feet at a time. The western side is particularly imposing; and were Lundy more accessible, it would have tens of thousands of visitors; but it has no harbour, and no landing pier or stage, and though the beach, at its south-eastern extremity is good as far as it goes, it is not always accessible or safe. Sometimes furious seas roll upon that beach, as though they would wash the very island itself away, and Lundy is then completely cut off from all communication with the mainland, except by the telegraph, which a few years ago was laid down between Hartland, on the Devon coast, and the South Point. Off Lundy the anchorage is excellent

in westerly gales, and then, especially if the storm lasts some days, numbers of fine steamers and splendid ships with whole fleets of skiffs and tugs take shelter under the lee of the island, and there they stay, till with a shift of wind to the east, they are off to some less exposed spot.

I have lived on Lundy three years and a half, and after much hurrying to and fro and a long residence in great cities the contrast was startling. Quiet and leisure I had in plenty, for my professional duties were a sinecure; but, cut off from conflict and competition, the inclination to work and to make the most profitable use of my time was wanting, and never did I do less, never did I get through fewer books. No! whatever poets may say to the contrary, the man exposed to the storms and distractions of life works hardest and does best. Rural retirement is more captivating to the imagination than in reality. I used to listen to the piercing shriek of the restless wind, stroll about the island, exchange a few words with the residents, and when evening came I was sufficiently tired to feel that I had earned a good night's sleep in return for my arduous labours. The more a man has to do the more time he commonly finds to undertake fresh work; the thinker, or he who aspires to be reckoned such, must live among men and be sharpened by intercourse with his fellows; even the poet must not go to the desert for inspiration, and Lytton in accounting for Leonard Egerton's failure to produce a second masterpiece gives as an explanation the mistake he made in burying himself in a remote western village. I am not even sure that natural history would gain much at the hands of a recluse, whose theories were not corrected and observations tested by critical and sceptical colleagues.

Lundy is in many ways noteworthy; its chief attractions are its configuration, climate, bird-life, and vegetation: to say nothing of its history: the last not very eventful it may be, but going far enough back to invest it with some interest. On the south point, overlooking a narrow and dangerous neck of land, which connects the main portion of Lundy with Lametry, stands a small castle—rugged, ancient, and gloomy—once the stronghold of a Norman baron, and still called "The Castle." Its original lord and founder was a certain De Marisco, this is said to be a corruption of De Montmorency. The island, according to tradition, was granted, many centuries ago, to the Knights Templars, who, however, never took possession of it. Then it passed from one noble to another, was the scene of much petty fighting between Welsh and Irish, and finally, fifty or more years ago, came into the possession by purchase, of the late William Hudson Heaven, a quiet, amiable country gentleman, who made it his home for many years, and there died not long ago. The present owner is his son, the Rev. Hudson Grosett Heaven, M.A., late of Trinity College, Oxford, an able and accomplished man of scholarly tastes, who has the rare felicity, in the south of England at any rate, of being absolute lord of all he surveys, without an equal or rival for many miles.

The top of the island is an extensive and tolerably level plain, sloping slightly towards the north and east, with no trees, no hedges, and no shelter. This absence of shelter is a serious drawback and diminishes the value of the land for agricultural purposes, for from the comparative mildness of the winter and the absence of severe frost, large quantities of excellent early vegetables might be grown for the Bristol markets, were there only good protection. Perhaps, were sufficient expense incurred, some shelter might be found in the combes on the eastern slopes, and vegetables of excellent quality could be grown a month earlier than on shore.

After the end of March, white frost is rare. In March, 1878, the lowest reading was 32° F., in April, 33° F., and in May, 39.5°. In March, April, and May, 1879, the readings were respectively 29.5°, 30.5°, and 36.5° F., and in 1880, in the same months, the minima recorded were 36.0°, 39.0°, and 38.5°. The mean temperature of the Island must be about 50.5 F., its principal characteristic being the mildness of the nights, especially in spells of severe weather on shore, but the summer maxima reduce the annual mean below the figures, which the mild winter would lead one to expect. Unfortunately the elevation of the island and the want of shelter from wind, counterbalance in some measure the exceptional advantages which the absence of low temperatures would give.

The south half has long been cultivated; there the grass is smooth and green, and the crops are of superior quality; the northern half remains in a state of nature, with shallow soil or bare rock, and more lichen and moss than turf. The slopes of the island, which are locally called *sidelands*, are, in places singularly beautiful and attractive; in others, principally, though not wholly, on the west, majestic, and impress the few people who have the opportunity of seeing them as surpassing in rugged, untamed grandeur anything to be seen in the South of England, not excepting the precipitous rocks near Land's End, which cannot be much more than half as lofty and look insignificant in comparison. On the slopes, well under the shelter of the mass of the island, but some distance above the water, the soil is, in places, deep and is contained in pockets, where it has accumulated, and there many species of wild flowers luxuriate, and attain splendid proportions.

Nearly all animals well repay attentive observation, and speaking broadly differences of temper and habits are very pronounced. Horses, cows, dogs and cats all have curious peculiarities and no two members of the same species have the same taste. A cat in this town formed the habit of eating raspberries, and it was most entertaining to watch the tiny creature climbing the canes and creeping along the wires picking off and eating one fairly ripe fruit after another. I need hardly say that the cat's owners, though proud of its originality, would have preferred it to eat somebody else's berries. A little black cat, now in my possession, is strangely fond of ripe melon and cannot be kept off the sideboard if one is there—he eats three or four small slices at a time with great gusto, and he and his mother often leave other food for soft dry bread, which they get through in large quantities; he also enjoys drinking out of the bedroom jugs quantities of water very large for such a mite. Mr. Charles Augustus Murray in his delightful "Travels in North America" mentions an incident showing the affection sometimes subsisting between animals apparently having nothing in common. He says that at Bordentown he found the whole village in a state of wild excitement, and was informed that a menagerie was coming. Of course he went to see it and found it uninteresting with the exception of a very fine black-maned African lion and a young female elephant, which had been saved from the wreck of an English ship; the lioness had taken such a huge fancy to a fine bulldog that she could not be induced to leave the sinking vessel until he had been compelled to jump overboard, when she at once followed; the tender pair were of course after that not separated. Now the great charm of Lundy is the opportunities it offers of studying natural history, for its speciality is its

wild birds, which once abounded. In former days, when they rose they filled the air with their discordant cries, but long before I took up my residence on the island their numbers had greatly diminished, and though protected, as much as possible, by the squire and his sister, serious inroads have been made upon their numbers, and they no longer rise in the dense clouds reported by earlier visitors. In April they *come in*, and before long almost cover the rocks and the more inaccessible headlands, and a little later they commence to lay. The species commonly met with are several sorts of gulls, guillemots, shags, razor-billed auks, puffins, and a few, alas! only a very few gannets, that noblest of British sea-birds, which darts like a ray of light far below the watcher's feet and not much above the water. It is said, though I cannot vouch for it, that Lundy is the lowest latitude in which the Solan goose lays, though that distinguished oriental scholar and traveller—Dr. W. F. Ainsworth—has seen it flying along in its characteristically majestic fashion, on the coast of Portugal. Gannets choose open ledges, and most of them, almost of necessity, lay where daring climbers can get their eggs. The temptation is too great, and as the work of destruction never ceases, the wonder is that any escape, what with the depredations of the birds, who can often be seen sitting in most contemplative and philosophical fashion, with half an egg shell impaled on their beaks, what with the rats, and what with the assiduous hunts of the islanders, the sailors and the pilots. I do not want to accuse seabirds of being cannibals, and eating their own eggs, that would be too cruel a charge to make, but do they not eat the eggs of offending friends? At any rate they are often seen sitting reflectively, with the remains of an egg on their beaks; and sharp eyes have before now seen a guillemot with a guillemot's egg thus impaled. Truly the eggs in the season have many enemies to face. Puffins generally lay their eggs, which much resemble those of the domestic fowl in size and shape, though not identical in colour, in burrows, and consequently many escape. The razor-bills also choose obscure and unsavoury nooks behind huge masses of rock that have fallen from the top of the island: but gulls and guillemots are less acute and far-seeing, and deposit their eggs in full sight of the egg gatherer, while Solan geese select by preference bare ledges, not particularly difficult to reach, and few of their eggs are hatched out. The largest egg is the gannet's, and it usually fetches sixpence, but the most brilliantly coloured is the guillemot's—which is green, white, or blue. Nests are not made, except very rude ones by gannets and gulls, and a little rubbish is scraped together by some of the puffins; in short, sea birds do not excel as nest builders.

The tameness of the birds at the breeding-season takes one by surprise, and some of the smaller species actually remain on their eggs until they are driven off. They not unnaturally resent the attempt to remove them, opening their formidable beaks, and snapping with right good will at the fingers of the egg-thief. Of all quaint little creatures, none surpasses the puffin with its comical physiognomy and red colouring, so much more vivid in life and in its native haunts than in museums, where, however skilfully and faithfully the bird-stuffer does his work the student of nature is painfully struck by the contrast, missing that indescribable something which life alone can give. Sea birds' eggs are not bad eating when boiled a long time, but they have rather a strong flavour, and are useless for delicate high-class cooking. As for the flesh of the birds, though not absolutely uneatable, especially in a meat pie, there is something unpleasant in the thought of eating it, and few birds are used to satisfy the human appetite on our English coasts, though the hardier and less squeamish Scotchman does not despise them preserved in salt. Of land birds Lundy has a longer list than one would expect—blackbirds and song thrushes, robins, white-throats, a few cuckoos, sparrows, chaffinches and other common species being at all seasons fairly numerous, while in severe weather considerable flocks of tender native birds cross from the mainland. In addition to the foregoing, plovers, curlews, peregrine falcons, Cornish choughs, ravens, crows, gosshawks, and buzzards are seen in small numbers, a pair or two of each species permanently residing on the island. The peregrine falcons of Lundy have always been held in high repute for hawking, and even at the present day young falcons are sent away for this purpose. An occasional eagle has before now condescended to alight on the island for a short rest.

No more favourable place than the Lundy sidelands could be found in June and July for the study of birds. What life! what movement! what conflicting interests! Talk of the lower animals not being worth studying, why, they are sometimes more intelligent than men, at any rate more interesting, and have they no memory? What about the very learned dog which not long ago appeared before Mr. O'Donnell in the Dublin police-court as a witness in a dispute as to his ownership? A Mr. Burke claimed to be his owner against a man named Smith, who had had the animal since the previous August, when Mr. Burke said he had lost him. Mr. Burke, who had been in India, said he taught the dog Hindustani and Tamil, and the dog, on being brought into court and addressed by him in those languages, immediately responded, doing several things he was desired, and he was therefore restored to Mr. Burke.

In mild winters Lundy weather is of a broken spring-like character and favourable to bird and insect life, but I never heard of any swallows being seen there at that season. Now as is well known, Gilbert White continued, in spite of certain disclaimers and evident doubts, to believe that the hirundines passed the winter in sleep, and he also credited the cuckoos with hybernating. Would a residence on Lundy have satisfied him? The other day a writer in one of the papers actually said that he did not believe that the question was settled in favour of migration, and he mentioned that four people had heard what they thought was a cuckoo in mid-winter. I may remark that the anatomical peculiarities of these birds would not be compatible with hybernation, while it is certain that not a winter would pass without many torpid specimens being found. But though birds may not hybernate many mammals do so regularly, and some others have a knack of lying *perdu* as it were for days. A marmot, in its winter sleep, has been rolled along like an inanimate ball, and it then seems unconscious of pricks or pinches, while the fluids in its tissues are nearly exhausted and its blood becomes thicker than ordinary, in short all the functions and habits of animals deserve investigation, and the bird lover should really pitch his tent on Lundy for a few months.

Although the rocks look so precipitous, and in places rise in abrupt ledges four hundred and even four hundred and fifty feet from the water, long practice and holding a rope in the hand, securely fastened to a crowbar driven into the ground, or firmly attached to a projecting point of rock, will enable a steady head and a keen eye to explore almost all the ledges, comparatively little of the sidelands being

absolutely inaccessible. Nor is this amusement so dangerous as might be supposed, though lives have occasionally been lost. Ladies soon become expert climbers, and find great enjoyment exploring the nooks and crannies of the mysterious bays of the west and north-west.

Lundy, as I have explained above, has become a favourite shelter for thousands of ships in the course of every year, and it has probably saved many thousands of lives and hundreds of vessels. Unfortunately, in fogs, it is often the cause of loss of life and destruction of property, and many a ship has gone down on the dangerous reefs and iron-bound sides. On the morning of Tuesday, February 6th, 1877, during my residence on the island, a large steamer, the *Ethel*, of Sunderland, struck on a dangerous rock on the west side, not far from the battery. The mate, a Scotchman, named John Lawrence, after a terrible struggle for life, swam ashore and was saved; his escape was simply miraculous. Had he not escaped, it is very possible that the steamer to which he belonged would have been lost sight of, and no information would ever have reached the world as to its awful fate.

The population never can have been large, nor can fishing have brought immigrants from Cornwall and Devon. The absence of a safe harbour is a fatal drawback, for though the anchorage is excellent and shelter can generally be found in the roughest weather, for many years there has not been, and perhaps there never was, any place where a small craft could count on absolute safety in all states of sea and wind; in other words, vessels could never have belonged to the island and stayed near it. The shellfish is good, and a band of rugged Cornish fisher-folk, from the remote coves of Land's End and Sennen, usually come over for some months, every spring and summer, and, by means of their lobster pots, manage to get large hauls, which they take over to Ilfracombe or Instow for the London market. There is no life of greater peril and exposure and more continuous labour than the fisherman's, and its rewards are small; the poor fellows losing their sleep and working like slaves, and often ending by perishing in storms, and all in return for very small wages. But it must have a certain inexplicable fascination, at any rate no dearth of fishermen is feared, though the men who follow the calling do not seem particularly unhappy, and find a strange pleasure in relating their rather unromantic and monotonous experiences of wet and cold.

On the western side of the island there are many singular clefts or rifts, which look as though there had been some terrible convulsion of nature; this part of the island is called the Earthquake, and tradition relates that these clefts date from the catastrophe of Lisbon. I am no geologist and must express an opinion with extreme caution, but any connection between these rifts—this splitting of the granite, these faults, as I suppose they would be technically called, and the Lisbon Earthquake is as improbable as between them and the Battle of Waterloo. None the less are they of singular grandeur, and among the most wonderful of the many marvels of Mr. Heaven's little kingdom. In other places, too, the rocks are fantastically contorted, and look as though they had been uncouthly carved by laborious South Sea Islanders or Egyptian colonists, and these natural sculptures are locally known by such appropriate names as the Templar.

The antiquities of Lundy are not remarkable, and, the remains of the small castle excepted, offer little to attract the antiquary. Legends have been handed down of a dense population in ancient days, and of towns, villages, and churches, but these seem to have little to rest upon. Some brass guns, thrown down from an old battery on the sidelands, were said to be visible in the water, at certain states of the tide on the east side, but I never saw them, though I often looked for them. Some kistvæns were found many years ago, but no description was given of them, and they are totally gone. A quarter of a century ago, too, some men, cutting a trench for the foundation of a wall, came upon a curious grave, evidently of great antiquity, enclosing a skeleton, and the remains of eight or nine other human bodies were lying near. The skeleton in the grave is said to have measured eight foot three, and a second was also of abnormal size. The improbability that the correct measurements were obtained is so obvious that few scientific men will accept these figures as reliable. A lady, generally residing on the island, though temporarily absent, assured me that no mistake had been made, and that I could accept the measurements. Unfortunately the attention of antiquaries was not drawn to the matter, and the skeletons were buried in the Churchyard by order of the late squire. Some rude beads, apparently of glass, were found in or near the graves, and were preserved, and these have been submitted to a learned friend of mine who has pronounced them Danish, but of no special value. The largest of the skeletons was enclosed in a rude stone grave, not a carefully constructed stone coffin, although a stone had been hollowed out for the head and another for the feet. If the beads were Danish it is natural to assume that the bodies were those of Danes, and a curious inquiry might arise as to whether the ancient Danes buried their dead in the fashion described. Of course the length of the skeletons is startling.

Although a member of what is by courtesy reckoned a scientific profession, one of the others I suppose being civil engineering, and a third the army under modern regulations, I can never get up the smallest enthusiasm in scientific pursuits, at any rate in geology; true, I delight to watch the merry birds, because they are so beautiful; but art—painting, music, and architecture—gives me far deeper pleasure, and so I have not attempted to describe the geological, botanical, and insect features of Lundy, although I am told they are interesting. But I should like to see the Woolhope Club clambering up and down the rocks, and rushing frantically on some find of special beauty. It amuses me to see high wranglers and public examiners gazing with intense delight on some almost microscopic beast or leaf, and absolutely catching their breath as the truth flashes upon them that it is very interesting. "Bone," ejaculated a tall and stately clergyman of national reputation, as he handed me a rounded pebble, "bone rolled round by the aboriginal races of the country." "Stone," I rejoined, when I had looked at it "rounded by attrition on the sea shore." "So it is," replied the Reverend Fellow of the Royal Society, "I had not properly examined it." Mr. Heaven could not do better than invite some famous field club to an *al fresco* existence for a week among the rocks of Lundy: what vegetable treasures they would unearth; what discoveries would make their visit memorable in scientific annals, and how poor Thomas Edward, of Low Shore, Banff, would have enjoyed passing a few months on Lundy; but how little the general public would see to justify such enthusiasm! The naturalist's pleasures are quiet and unexciting, and not easily shared by the uninstructed.

The present population is small, and though it rises and

falls a good deal, has of recent years, rarely exceeded fifty, most of whom are connected with the extensive farm, comprising nearly all the cultivated land of the island; others belong to the lighthouse service, and a few to the squire's family. Some years before I took up my residence on the island, extensive quarrying operations were going on, and a large population was living there, but no granite is now being worked; the stone, however, is said to be excellent. Accommodation for visitors is scarce, and the squire does not like his little kingdom to be invaded by strangers. In summer a fast steamer crosses most weeks from Ilfracombe, and stops a few hours, and in this way an opportunity is afforded of exploring the place; a skiff also crosses weekly from Instow.

Difficult would it be to find another spot so cut off from the busy world, so interesting in its way, and so difficult of access. When I used to cross to Instow, I felt that I was then in the bustle of modern life; though the first time I went to Lundy from Birmingham, directly after a journey to New York, Instow, at which I was kept twelve days by the high seas, looked like the *Ultima Thule* of civilised life. Since I ceased to reside there, eight years ago, I have not set foot upon it, and the trouble and uncertainty of getting to and leaving Lundy sufficiently explain my long absence, although my interest in it is undiminished. I often hear from some of the residents; and very great changes have of late been made, but not of such a character as to require any modification of what I have said above.

XXXVII.—BOSCOMBE.

By our Special Medical Correspondent.

The opening of the new pier at Boscombe, on Monday, July 29th, is unquestionably the greatest event in the history of that rapidly-rising watering place. It was witnessed by crowds so vast, that the public interest was evidently keen, while the weather was simply perfect. Many of our readers probably do not know that Boscombe is an extension of Bournemouth, halfway between the latter and Southbourne-on-Sea. Sixteen years ago Boscombe consisted of a few huts and a couple of tiny shops, nothing more, and now, like Washington, it is a city of magnificent distances, with miles of broad, noble new roads, hundreds of handsome houses, and preparations for building on a colossal scale. Indeed, we were told on good authority that the houses now being put up represent over £150,000. At present many of the roads are not built up; but in ten years we venture to predict that there will hardly be an unoccupied site, and that the population will have quadrupled. The distance from Bournemouth was so considerable that it was thought desirable to build a pier and to make good approaches to it, and a wild but most picturesque chine was selected for the purpose. The pier has cost £12,000, and never was money more judiciously laid out, never was work better done, while the spot chosen has the greatest natural and artificial advantages, and could hardly be matched by anything in the neighbourhood.

The committee of management decided to invite some leading statesman to open the pier, and at the same time they issued invitations to a hundred or more of the leading people of the district. The statesman who consented to come was the Duke of Argyle, and never was choice happier. Punctually at noon his Grace, attended by the Marquis of Lorne, reached the small enclosed space near the entrance to the pier, where a chair had been put for him. He was received with deafening cheers. He first looked curiously round on the thousands before him, and far as the eye could reach they could be seen covering the heights and filling the ravines, and forming a *tout ensemble* rare in our dingy climate. After listening to the customary addresses (one of the best of these was read by Mr. McEwan Brown, the honorary secretary of the reception committee), his Grace gave one of those genial, scholarly replies for which he is famous. Looking behind him he pointed out the beauty of the water and the purity of the sky, and congratulated the residents on the exquisite climate they enjoyed—the best, he thought, in the world, for it was equally a stranger to the intolerable and scorching suns of Italy and Andalusia, and to the biting blasts of Canada and Russia. "You have not," he remarked, "the fierce sun of lower latitudes, nor the azure seas of Sicily; but where will you find a place in which a greater number of days can be agreeably passed in the open air?" "Among the addresses," continued the Duke, "for which I am particularly grateful, is the one which has just been presented by those Scotchmen who are residents at Bournemouth, and I am very glad to have a representative in Mr. McEwan Brown of that branch of the community, because I believe Mr. McEwan Brown has taken a prominent part in this undertaking that we are inaugurating to-day. I am glad to thank him as a representative of Scotchmen, because I gather from his double name—McEwan Brown—that he is partly a Celt and partly a Saxon, and that is my own position exactly. I am a Campbell on one side of the house, I am a Glasielt on the other, and the one is a highland and the other is a lowland name; and I have a theory that what are called pure races are less active and energetic than a mixed race. I believe that a great advantage that we have in England, Scotland, and Ireland, is that there is hardly a single man or woman who can say he is a pure Celt, Saxon, or Norman. We are all a mixed population; and in the case of our excellent friend, the lower animal, who is an especial friend to man—the dog—it is said that mongrels are bad dogs. But I believe mongrels are the best of men. After all, there is nothing strange in even pure Celts being in Bournemouth, although it is a long time since there were any in this country in their purity. But you have a curious recollection of it in some of the names in this country. I suppose some of you know that the river Avon, which flows out close to us into the sea at Christchurch, is a pure Celtic name. All over England, in many parts, there are rivers Avon, commemorating the period when the whole of this country, before the Roman invasion, before the Saxon invasion, before the Norman invasion, was inhabited by purely Britannic Celts. Therefore it is no strange thing if there were such a person as a pure Celt, if he could be found, inaugurating this work near the river Avon. Close to my door in Scotland there is another river called the Garavon, and that is precisely the same as the French Garonne. So interesting is it to trace the history of nations and the local names of a country such as this." He then declared the pier open, and, walking to the end of it, was followed by the notabilities of the district, among whom one of our contributors, the Rev. R. A. Chudleigh, Rector of West Parley, was not the least distinguished.

The new pier is 600 feet long and 38 feet wide. It is a noble structure, extremely handsome and light, going right out to sea, and standing at a considerable distance above the water. It is expected that it will shortly have a

regular service of boats, and there can be no doubt that it is a great boon to the neighbourhood, and will raise the value of property immensely; indeed, it will make Boscombe complete and practically independent of Bournemouth.

In the course of the day we learnt that the contractors, Messrs. McEwan Brown and Co., of Boscombe, had had to contend with many difficulties, but that they had overcome them all, and it was generally agreed that they had acquitted themselves perfectly.

At one o'clock the guests had luncheon in a large tent near the Chine Hotel, and then again, amid general applause, the duke gave one of his happiest speeches. He told his hearers that he had known Bournemouth longer probably than any of them, for it was forty-three years since he first came down as an invalid to see the place and recruit his health. Then Bournemouth was hardly known; indeed, he had not even heard its name until he was advised to visit it. He found the Royal Bath Hotel, which had only recently been completed, and about 2000 people, that was all. Vast pine woods extended in all directions, intersected by swamps, gulleys, and wandering streams. Since that distant day he had paid other visits, and now he found that the bantling of the last generation had become a giant; the rivers had been straightened and confined; roads had been cut in all directions, and whole towns had sprung up which, large though they were, seemed only to be the commencement of still greater things hereafter. The duke spoke of the natural wonders of Bournemouth, and these he thought were, first: its marvellous geological features; indeed, he said that there was no exaggeration in asserting that the spot on which he was standing and speaking was unlike any other in the United Kingdom, for where he was standing there had once flowed a mighty river, vast beyond conjecture, bringing down the sands of regions that must have enjoyed the climate of the tropics and carried a vegetation unlike that of any existing northern region. In those stupendous mounds of river sand which he saw all around were to be found the fossil remains of Araucarians, now confined to Australia, of Cacti, found only in America, and of palms only now growing naturally and luxuriantly in hot climates. "Where," he asked, "was the land from which that ancient river came? What climate had it? When did it pass away? How long was it since it had been destroyed?" He next spoke of the fish, especially of the herrings, larger than those of Loch Fyne, but not to be compared with the latter for flavour and delicacy; and then he said something of the bright genial climate and of the boon such a place was to the countless thousands of invalids who could not afford to leave home in search of those soft delicious lands where the breath of winter is unknown and where summer holds eternal sway. We may say that the elegance of the diction, the facility of expression, and the absence of notes, made the speech peculiarly un-English, and that it was, therefore, a departure from the ordinary beaten track, which merited the warm praise that other speakers gave it.

Mr. Scotter, the managing director of the London and South Western, speaking as one of the visitors, pointed out that a noble marine road, equal to any in Europe, might be made between the two piers, and that Bournemouth would then have charms which no other English watering-place could rival, and which would put it in the first rank among the Health Resorts of the World.

Knowing what Boscombe owes to Mr. McEwan Brown, and of what he is capable, we are sure that the suggestion will not be lost on him, and that he will not rest till the proposed marine road is carried through.

We believe that such a marine chain has long been thought of, and though we do not know whether anything is actually being done in the matter just now we have the conviction that before long the necessary arrangements will be made, and the work carried out triumphantly and to the advantage of the whole district.

The proceedings, favoured by brilliant skies and vast happy crowds, passed off without a hitch, and few of those who were present will ever forget the day. The duke made a graceful allusion to the sumptuous accommodation which had been provided for him at the Chine Hotel, and he added that he had never been more thoroughly at home, never better looked after; and he spoke from a long experience of hotels, both British and foreign. The luncheon was under the management of the proprietor of the same hotel, and we must add that it did great credit to all concerned, and was thoroughly enjoyed by the guests.

We do not profess to be prophets, but we shall be surprised if Boscombe does not rapidly grow at a still more rapid rate, and if before long many of the lovely sites still unoccupied have not been sold at the most enormous advance on their original cost.

ARSENIC AS A COSMETIC.

By G. Cadogan-Masterman, M.D.

During every trial for poisoning by arsenic now-a-days we are prepared to hear two stories in the evidence for the defence:—That of the Styrian arsenic eaters, and that it is used by ladies with rouge and pearl powder in the esoteric mysteries of the toilet. And both stories have been told so often and so impressively that not only the public, but the presumably well-informed narrators, have come to regard them as matters of indubitable fact. But they really stand in the same category as the tale of the Poison valley of Java, and the schoolboy legend that a little quicksilver put into a quill and deftly inserted into a dumpling will make the latter jump out of the pot! The valley never existed, and the experiment is believed in because it has never been tried.

The first is related on the sole authority of a certain Dr. von Tschudi, and appeared originally in *Le Journal de Chimie Médicale*, 1854, p. 445, and is to the effect that the peasantry of Styria and some parts of Hungary are in the habit of "eating arsenic," the men for the purpose of improving their wind as mountaineers, and the women for adding to their personal charms and plumpness. And he gives many examples which would be sufficiently convincing only it is perfectly clear from his description of the way in which the mineral is obtained, that, if they do eat it at all, it is some harmless substance, possibly an ore of zinc. And we know that there is no fact in therapeutics more certain that, so far from the human system becoming habituated to the use of arsenic, there is no remedy of which it is more intolerant. Even the usual medicinal dose of one-eighth of a grain daily is apt to disagree after a time, and the full dose of double that minute quantity can rarely be persisted in without poisonous effects compelling its intermission or disuse.

As for its employment as a cosmetic, no one out of a court of justice has ever heard of such a practice; bi-chloride of mercury is really the metallic base of all

face washes, such as Rowland's Kalydor, and so on; arsenic can only have been used by a person utterly ignorant of its effects, and who had, of course never used it before. It is desperately irritating even to the comparatively callous lining of the stomach, and far more so if applied either in powder or solution to the human skin. So dilute a lotion as would be produced by soaking a fly-paper in a pint of water would inflame it, and a somewhat stronger solution would quickly cover the face with angry pimples and rough excoriations, and its use as one of the most powerful and painful of escharotics is proof enough of this. The story of the German schoolgirls washing their plump cheeks with it is too absurd for serious refutation; but it is not difficult to trace how the myth arose, and we may put it into the form of a syllogism:—Diseases of the skin are very unsightly. Arsenic is used internally for the cure of these diseases. Therefore, arsenic applied to the healthy skin will make it more beautiful. The premises are sound, but the deduction is false, and yet with enough plausibility about it to make it popularly acceptable. I have noticed that the prolonged use of arsenic in small doses, ♏iij. *ter die*, produces a very unsightly brown staining of the skin, and a note to the same effect appeared in the *British Medical Journal* recently. And I have seen the hands and arms of sheep-washers inflamed from the same cause, although in South America I was astonished to see how little the hide-curers were affected by it; but in their case the profuse perspiration and their use of soap with it may have protected them.

In a trial which is still absorbing public attention, it seems a strange oversight that none of the medical witnesses pointed out that arsenic is never medicinally administered in powder, but in solution. The only exceptions to the latter form are the arseniates of soda and of iron, which are sometimes given in pill. In the long list of arsenical preparations collected by Jourdan (*Pharmacopée Universelle*) and by Dorvault (*La Botica*), chiefly coloured powders and pastes on the lines of *le powdre du frère côme*, to be used as escharotics, there is not one white powder nor one for internal use, with the exception, again, of the arseniate of soda, which is directed to be given in pill; the arseniate of iron, a green powder very rarely prescribed, is not referred to.

And it is hard to understand how any skilful advocate could have permitted that preposterous New York story to have been told of the sending to a chemist's for—was it half-a-dollar's worth?—of arsenic, and the putting of "a lump" of it into a cup of tea the victim was drinking! Oddly enough, however, it happens that, if the poison *could* have been bought at a dispensing chemist's in lumps, one might have been so treated and the beverage and the drinker been none the worse, if he had only left the fragment at the bottom of the teacup. Arsenious acid in the glacial form is so feebly soluble in astringent vegetable infusions, that very probably not an atom would have been taken up by the tea. In the stomach, even, large crystals, or at least pieces readily picked out, have been found, and yet the fluid therein has contained no trace of it.

The unfortunate and most unnecessary use of arseniate of soda in the making of fly-papers was probably suggested by the *Poudre aux mouches* or *Fliegengift*, a nearly black powder, obtained by exposing metallic arsenic to the air, which used to be much used on the continent for destroying insects, and has led to not a few fatal accidents and even murder amongst human beings. But, before the Maybrick trial, it is doubtful if one vendor in a hundred, and certainly one buyer in ten thousand, knew that those abominable papers did contain it; and the question is—how did the prisoner obtain that fatal knowledge, the tale of the school-girl confidences being a transparent fabrication and afterthought? At any rate their sale should be interdicted at once; for, as quassia is a most fatal poison to flies, and very attractive to them, whilst it is harmless to human beings, there is no need to use arsenic in any shape in their manufacture.

One evil result of the trial will be that von Tschudi's mischievous fable will be once more spread broadcast over the country, and it will be well to reproduce here Dr. A. S. Taylor's indignant criticism of the sensational and *banal* chapter in "Johnstone's Chemistry of Common Life," which first made it popular in England. It appears in the fourth edition of Pæreira's "Materia Medica," p. 702. "This absurd and incredible statement regarding the nutritious and beneficial properties of arsenic, has been lately revived and placed in an attractive form before the public by an English chemist. The question, however, is not one of chemistry, but of physiology and pathology; and in this point of view the so-called "undisputed facts" regarding the benefits derived from arsenic-eating have been rejected by all authors of repute. The publication of such a statement, unsupported as it is by those who have had ample and long experience on the subject of poisoning by arsenic, is only likely to be productive of great mischief. It may lead persons to take the course suggested in this book, and endeavour to fatten their children upon a substance which must ultimately destroy them; and it may justify burial-club murders by inducing people to believe that arsenic is given, not to kill, but to improve their personal appearance. Lastly, we may find that ingenious barristers, in defending prisoners, will adopt this author's theory in alleged cases of criminal poisoning by a woman or her paramour, that arsenic has been merely given as "a love awakener—the harbinger of happiness—the stimulator of ardent longings—the bestower of contentment and peace!" Now, was anything more infamously suggestive of crime, and the means of palliating or concealing it ever penned than this? Fortunately, however, there is no poison for which chemistry supplies such accurate and trace-reaching tests. With the fatal peculiarities that arsenic is tasteless, that it can be introduced in a hundred unsuspected ways into the victim's body, and that its effects simulate so closely the symptoms of disease, it is, indeed, providential that it can be detected by analysts so easily and with a certainty so absolute, and not by them only, but by those who have only the somewhat rudimentary knowledge of chemistry which is one of the characteristics of English medical men; and, as it can be most readily detected in the urine, the test can be applied without exciting the suspicion of the guilty, or offending the innocent.

There is a point, by the way, in the differentiation of the redness of the lining of the stomach in cases of suspected irritant poisoning, which deserves attention. One of the witnesses spoke of scattered spots of a deep red colour as characteristic of arsenical poisoning, and expressed surprise that they were not found. But these spots can only occur when the poison has been given in powder, and possibly a coarse one; each being the site of the lodgement of some fragment long enough to have acted as a caustic. When the arsenic is given in solution, as it clearly was in the above case, it would be unreasonable to look for them; for a diffused redness, brighter in colour than, but very similar to that produced by concentrated alcohol, could alone be induced.

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

Creasote Treatment of Pulmonary Consumption—Chloralamid a New Hypnotic—Menthol in Skin Diseases—The Comparative Value of Hypnotics.

Prof. Dr. Sommerbrodt, of Breslau, publishes in the *Therapeutische Monatshefte* a further communication on the *Creasote Treatment of Pulmonary Consumption*. Since his last publication on the subject, in the autumn of 1887, he has continued to administer creasote in many hundreds of cases of pulmonary consumption. The drug was given in gelatine capsules, each of which contained one grain of creasote. He usually began by giving three capsules on the first day. Each following day, one more capsule was added to this dose until the daily amount (on the eighteenth day of treatment) consisted of twenty-one capsules, given at three times, equal to twenty-one grains of creasote. This large dose was uninterruptedly continued for many months. It is impossible to suppose that the twenty-one grains given on one day will, when the following dose is administered on the next day, completely have left the body. A cumulative effect of creasote during the treatment must therefore, he says, be inevitable, and he thinks it is quite possible that such a large quantity circulating in the blood may have a direct deleterious influence on the tubercle bacilli.

Sommerbrodt gives one striking example of the beneficial action of creasote. On the 30th of August, 1888, he began to treat a weak, sickly-looking lieutenant, who was suffering from extensive tubercular disease of the right lung, with the following symptoms: dulness over right apex above clavicle, dry crepitant râles, intense emaciation, distressing cough, moderate expectoration, loss of appetite. Bacilli and elastic fibres abundant in the sputum; slight dyspnœa. The patient had suffered from dry pleurisy one year previously.

On the 1st of September the creasote treatment commenced, and on the 18th of September the full dose of twenty capsules per day was reached. On the 29th of September the sputum examined microscopically showed elastic fibres and tubercle bacilli, which, however, entered only into the formation of small heaps. The other symptoms were much improved, the appetite being splendid. In the autumn the officer was enabled to resume his duties, and he was not once on the sick-list during the whole winter. He followed all the out-door drilling of his regiment, and had repeatedly to walk in snow, reaching up to his knees. His bodily weight steadily increased, gaining twenty pounds. He resumed a healthy appearance, and had no complaints whatever. In April, 1889, no physical signs of any lung disease could be detected on examination. During a period extending from the 1st of September, 1888, to commencement of June, 1889, he had swallowed 5,400 capsules, representing about nine ounces of creasote and thirty-five ounces of balsam of tolu. He never felt so well as he did after this treatment, which is still continued with a view of preventing recurrence. At present he takes only small doses—nine capsules per day.

The author treated many hundreds of cases with equal success, and was always, especially in recent cases, highly satisfied with this treatment. He therefore greatly advocates the new method, and strongly recommends the use of large doses. Small doses he considers quite inefficacious. Fifteen to twenty grains of creosote ought to form the daily dose, which should be continued for many months. It will, in most cases be found practicable to give such large doses. The method of administration he thinks is not essential, provided that the creosote is of first quality, and that it is always taken immediately after food. It may be given in the shape of capsules, drops, wine, or emulsion. Improvement of the patients symptoms should always form a fresh stimulus for continuance of the treatment.

Drs. Hagen and Hüfler report in the *M. Med. Wochenschift*, on the *hypnotic action of Chloralamid*. This drug belongs to the class of hypnotics which cause sleep a very short time after their administration, its effect being usually apparent within half an hour. The experiments with chloralamid were made on twenty-five patients, and three healthy people, altogether in twenty-eight cases. In twenty-six out of these cases a distinct hypnotic effect was obtained. The result was most excellent in sixteen cases; in the other cases it equalled the effect of other hypnotics; while in two cases it failed entirely. Chloralamid, according to the said authors, possesses the following advantages over chloral hydrate: its taste is more agreeable—it causes less ill-effects—adaptation to the remedy does not occur, and even after prolonged use of the drug its full action is usually developed.

With regard to the dosage, the authors found that in many cases, especially with women, thirty grains (in severer cases, forty-five grains) were sufficient. They were given in wine or in wafers.

The authors do not hesitate to declare that chloralamid is one of the most reliable hypnotics known. It consists of a white powder, readily soluble in water, of slightly bitter taste.

Saalfeld recommends *Menthol* as a local application in different affections of the skin, in which itching forms the most prominent symptom. He uses lotions, containing menthol, according to the following formula:

℞ Menthol ..... gr. 20
Spir. rectif..... ʒ ii.

Or ointments:

℞ Menthol ..... gr. 40
Ol. olivæ..... ʒ iii.
Lanolin .....ad. ʒ ii.
f. ungt.

In cases of scabies he uses the following prescription:

℞ Menthol ..... gr. 45
Bals. peru ..... ʒ iss.
Ungt. Wilson.
Lanolin .....āā ad. ʒ ii.
M. f. ungt.

Dr. Sastrowitz read a paper in the "Berlin Medical Society" on *Hypnotics*. He minutely studied the comparative value and indication of each of the different hypnotics, ancient and modern. His researches culminate in the following results:—

Chloral hydrate represents a most powerful hypnotic. Its action never fails, not even in cases where other similar drugs prove inefficacious. The administration of chloral hydrate, however, is not devoid of risk; large doses require great caution. They ought not to be given in cases of extensive disease of the lungs—as in acute pneumonia—and also not when the lungs are adherent to the thoracic wall or when any gross impediment exists in the respiratory organs. Chloral hydrate causes contraction of the pupils, and a state of excitation mostly occurs previous to the sleep. Both symptoms may fail to appear; in such cases further administration ought not to be undertaken. Smaller doses

of chloral hydrate are harmless, and may with perfect safety be given even in children's affections.

Paraldehyde, given in large doses, causes a number of symptoms similar to chronic alcoholism. It differs from alcohol in so far that it does not affect the heart. Adaptation to the drug, after continued use, is the rule; in such cases the daily dose has been increased up to three drachms without any ill effect. Paraldehyde is indicated in acute insomnia, and it acts specially beneficial when the latter is caused by intense itching of the skin. Paraldehyd is contra-indicated in all cases of bronchial affections.

Amylen hydrate is of very recent date, and yet it has already been outrun by sulfonal. It is a very safe hypnotic, being efficacious in acute as well as in chronic cases of insomnia. It is pretty harmless, one case being known where it was taken by mistake in a very considerable quantity without any disastrous effect, temporary state of intoxication being the only consequence. Dosage: ten to 100 grains. It is sometimes not well borne by the stomach, and in that case had better be applied per rectum.

Sulphonal has no disastrous effect on the heart. Its action is more gradual, sleep being effected within a few hours It has a specially beneficial influence in cases of motory excitation, as in chorea and mania. In the later disease sulphonal often causes a very quiet state, lasting for days if the drug is continued: excitation of sensory nerves and consequent insomnia is not so much benefited by it. Continued use of suphonal sometimes produces symptoms of giddiness and staggering gait. Sulphonal, according to the author, is indicated in all cases of acute insomnia where rapid action is not absolutely necessary, and in all cases of insomnia. Odourlessness and tastelessness of the preparation greatly facilitate its application.

Other modern hypnotics, *Urethan, Methylal, and Hypnon*, have already come to an early grave. They were either not devoid of danger, or their hypnotic effect could not be relied on. The author in comparing the effect of these different hypnotics, when given in the smallest possible dose, thinks that they have to be gauged according to the following list: Morphia, chloral hydrate, paraldehyde, sulphonal. When ranged according to their comparative harmlessness, and yet efficaciousness, they have to be enumerated in the following order: Chloral hydrate, sulphonal, amylen-hydrate, and morphia.

Reviews.

I.—*A Monograph of the British Uredineæ and Ustilagineæ.* By Charles B. Plowright, L.R.C.P., M.R.C.S., Senior Surgeon to the West Norfolk Hospital. Kegan Paul, Trench & Co., London.

II.—*Micro Fungi Britannici (Exsiccati)*. By Rev. J. E. Vize, M.A. J. E. Vize, Forden, Welchpool.

Mr. Plowright is a member of a rapidly-increasing class, and one deserving honour. Absorbed by the duties of a laborious and distracting profession, he finds time to study a branch of mycology demanding the study of a lifetime. He is favourably known at the Woolhope Club forays as well as in Sweden and countries even more remote, for his indefatigable researches in this vast field of natural history. As we turn over his beautifully printed and admirably illustrated pages and notice the scrupulous care with which the author has done his work, and then remember that all this erudition and observation appeals to only a small body of scientific men, we are overwhelmed with regret. The most feeble novel, the most puerile tract, would command fifty times as many readers, but such men as Mr. Plowright fight the battle of scientific progress and increase the joys of existence. Others amuse and tickle the fancy, and are thought very clever; but the patient scientific toiler plods on, happy in the feeling that he is, perhaps in ways little dreamt of, increasing human happiness, and learning something of those mysteries on which the health and food of millions depend. We could not here possibly do justice to the book. We can only say that anyone who will take the trouble to study Mr. Plowright's volume will find a perfect treasury of curious and trustworthy information. We dare not hope for a large sale, but the work will have a fit, though probably small circulation.

"Under the name of Hypodermieæ, De Bary unites the Uredineæ with the Ustilagineæ, which, however, do not seem to be very closely related to them." *(Sachs.)* Yet, related or not, they are well studied together, because whether viewed from the œconomic standpoint, or from the medical and scientific, their interest has much in common. Their œconomic interest arises from the fact that Mr. Plowright's pets are not of unstained character; they cause rust, and "bunt," and smut in wheat, and come before us with all the interest of freebooters; in fact the author introduces them as being "all parasites upon some living plant; in whatever part of the world phanerogams appear, these parasitic cryptogams accompany them." Among the misdeeds imputed to these entertaining miscreants is the production of alcohol (p. 15), which, however, is "not proven"; but after a trial comparable with that of Warren Hastings, they were found guilty of "blasting corn and English grain," the result being an Act of Parliament (of Massachusetts) specially levelled against them, the text of which is given by Mr. Plowright at p. 302, and is sufficiently curious. From the purely medical standpoint, the interest of these fungi lies in the fact that their study forms an admirable apprenticeship for the far severer study of those yet more abandoned characters, the Schizomycetes, which comprise the micrococci, bacilli, bacteria, and spirochætæ, which hold in animal pathology a place very similar to the one held in vegetable pathology by uredo and its congeners; for these latter have the advantage of presenting a fairly large multiple of μ in linear measurement, whereas the Schizomycetes are so minute as to elude all but the most skilful microscopists. Moreover the analogy of the uredine blights may furnish the clue to certain histological and developmental problems of the highest importance to the physician and surgeon. For example, it is still a question whether aborted organs and obsolete structures may not be stimulated by irritation into abnormal growth so as to resume somewhat of their former dimensions or even become the seat of cancerous tumours and similar morbid growths. Now the parallel of this actually happens in vegetable pathology under the irritation of a fungus. Lychnis diurna is normally dicœcious, each plant is either male or female, not both. But our own note book records "hermaphrodite lychnis diurna, with ten stamens shewing dark marone anthers at mouth of the tube; styles developed, half the height of the tube; abundance of seeds." In Mr. Plowright's book we find the explanation. He tells us (p. 79) that when the anthers of lychnis are attacked by ustilago violacea, the

female organs, normally aborted, are stimulated into full development. Compare with this the specimen of hop with both male and female flowers, the prunus padus bearing bladders instead of fruits, "probably due to a fungus," the fasciated stems of a thistle, the foliaceous flowers of a primrose and bean, and the various "altered plants," which are suggestively placed among the parasitic diseases in the teratological series of the Museum of the College of Surgeons. For analogies, almost like an incipient change of species, see Plowright, pp. 161 and 284, and 293 and 294. Yet again do we find that a true "amyloid degeneration," suggesting the so-called amyloid degeneration of animal pathology is produced by an æcidium, insomuch that the stems of a nettle are so swollen with starch that the Himalayan natives eat them much as we eat potatoes. Once more, the phenomena of alternate generation, of heterœcism, of polymorphism, may be seen writ large in the uredineæ, and they force the assumption that there must be parallel phenomena in the Schizomycetes; and if so, they account for the apparently erratic behavour of epidemics. The scientific interest, other than medical, of these fungi is also immense. As regards fertilisation by insects they deport themselves in much the same way as their floral superiors. The spermogonia secrete saccharine matter, and diffuse odours, whereby insects are attracted, and are made to disperse the spermatia. When produced on the upper surface of leaves the spermogonia make brilliantly coloured spots, yellow, orange, white and red; but when produced on the lower side of leaves the spots are made conspicuous to insects by a curious influence of the fungus which makes leaves, normally horizontal, stand up erect and expose their under surfaces.

It is very greatly to be hoped that this valuable and remunerative study will not be neglected now that Mr. Plowright and Mr. Vize have cleared the way. Whatever credit is due to Mr. Plowright is due also to Mr. Vise; for while the one supplies the written description of every British species, the other furnishes the beautifully mounted specimens by which those descriptions are illustrated. As a concluding effort to promote the study of these fungi, let us give a hint as to the easiest way to begin. Having read the half dozen pages in Sach's, proceed next to Plowright's four pages of glossary (p. 305.) Then by the aid of the plates (p. 324) familiarise the eye with these four structures, spermogonia, æcidia, uredospores, and teleutospores. Next, read chapter 12 (p. 105.) Then go through the book, referring frequently to a dozen or so of the slides which may be procured for illustration from Mr. Vize at Forden, Welshpool.

R. AUGUSTINE CHUDLEIGH, M.A.

Lectures on Nervous Diseases, from the Standpoint of Cerebral Localisation, and the Latest Methods employed in the Diagnosis and Treatment of these Affections. By AMBROSE RANNEY, A.M., M.D. (profusely illustrated). London and Philadelphia: F. A. Davis. 1889.

THIS is a veritable *edition de luxe.* The author (Dr. Ranney) professor of anatomy and physiology of the nervous system in the New York Post-Graduate School and Hospital, and professor of nervous and mental diseases in the medical department in the University of Vermont, has spared no pains in the production of the work. For the elucidation of his text, he has introduced most beautiful coloured original diagrams, sketches, photos, and he has been assisted by the publishers, who have reproduced in *fac simile* the results of his pencil. The letterpress is worthy of the illustrations, and it is seldom we meet with a work so admirably printed and so free from errata. So much for the typographical merits, let us examine its claims to consideration on other grounds. The work is divided into seven sections. The first section deals with the anatomical, physiological, and pathological deductions respecting the cerebro-spinal axis of man. This chapter opens with a short history of the famous American crowbar case, which Dr. Ranney says has been the starting-point of a new epoch in medical science. He explains how injuries of the brain (as by bullets) may not be attended by serious consequences, as the effects depend rather upon situation than upon severity. We have in this section a full description of the brain cells, the cerebral cortex, the nerve fibres, the corpus striatum, the optic thalamus, the capsular fibres of the cerebrum, the crus cerebri, the pons, the cerebellum, the medulla oblongata. After which we have a full description of the diagnostic value of the special symptoms of nervous derangement; and we have a *resumé* of some chapters which appeared in Dr. Ranney's work on "Surgical Diagnosis"; motor paralysis, cortical paralysis, hemiplegia, crossed paralysis, complete paralysis, sensory paralysis, hemi-anæsthesia, numbness and formication, hyperæsthesia, hæmocinopsia, aphasia, agraphia, word deafness, word blindness, are clearly defined, this being followed by general deductions relative to aphasia. Dr. Ranney then gives a summary of the diagnostic symptoms by which lesions of the brain may be localised during life; then a summary of the more important physiological and pathological facts pertaining to the spinal cord, concluding his first section with a summary of the cerebro-spinal architecture. This chapter is written in a most readable form, and it is accompanied by thirty-seven diagrams and sketches, coloured so as to bring out the more salient points and to explain the text. The reader is thus able to follow the author.

Section II. is entitled "Practical hints regarding the clinical examination of patients afflicted with nervous diseases, and the various tests which may be employed as aids in diagnosis." We would direct particular attention to part ii., "On the symptoms of nervous diseases revealed to the physician by his sense of sight." Dr. Ranney has very clearly exposed the importance of eye examination, and shown how necessary it is that the specialist should be something more than a specialist; the neurologist without an ophthalmoscope is like the mariner without a compass. Apart from the eye, special attention is directed to various other tests, and especially to the principles of electro-diagnosis.

Section III. deals with diseases of the brain and its envelopes. It is very exhaustive, and we need not enumerate all the special diseases which are very fully explained and illustrated.

Section IV. treats of diseases of the spinal cord and its envelopes, and is a very interesting and comprehensive treatise. "Functional nervous diseases" is the title of Section v., and here again the author brings to bear his knowledge of ophthalmology. He insists on the importance of the researches of Dr. Stevens, on the bearing of eye defect and eye strain in producing functional disorders. Chorea, for instance, Dr. Stevens found to be associated with hyperopia, and to be relieved by proper correction of the refractive errors. Dr. Ranney says: "I have looked care-

fully over the records of all cases of chorea which I have personally tested for anomalies of the visual apparatus; I have not found a single case where either manifest or latent hyperopia did not exist. . . . I have seen choreic symptoms disappear in several instances within a week or two when an existing hyperopia has been relieved by convex glasses, with frames well fitted to the child, so that each pupil is opposite the centre of the glass. It is not enough to tie a pair of glasses with frames made for an adult on to a child's head, and expect comfort to the child will follow such a procedure. Neither is it right to expect that glasses are all that is demanded when a child has esophasia, exophasia, or hyperphasia, in addition to hyperopia or hyperopic astigmatism, or refractive errors of the myopic type."

We mention this subject as we are not aware that English writers have attached much importance to it. The relief of headache by the proper correction of ocular defects is well known in English practice, and we believe that Dr. Brudenel Carter was one of the first to draw attention to this method of curing headache.

Section VI. deals with toxic and unclassified nervous diseases, and ranges over hydrophobia, multiple neuritis, chronic lead-poisoning, arsenic paralysis, alcoholism, acute and chronic mercurialism, bromism, tetanus, paralysis agitans, posterio lateral spinal sclerosis, exophthalmic goître, and myxœdema.

Section VII. gives an admirable account of the use of electricity in medicine, and a full description of electrical apparatus, illustrated with plates of the motor points.

The work concludes with a glossary, bibliography, and well-arranged index. We have given an outline of the scope and contents. Originally given in the form of lectures, and illustrated by drawings on the blackboard and coloured chalks, Dr. Renney has developed the various sections, bringing in the latest contributions to each special subject, and making not only a practical but a readable book. The value of a book of this kind to the general practitioner is as a work of reference; he is sure to have under treatment some form of nervous disease, and, without reading the whole book through, he can take it down and read up all that relates to the particular case he has in hand, it may be one of chorea, multiple neuritis, or sclerosis; he will benefit himself and his patient in this wise; knowing the latest views and the latest treatment, he will be armed. In process of time the whole work will be read.

English literature is enriched by a work of this kind, even though it is produced by an American house; and we may congratulate ourselves that we have in England such men as Ferrier, Hughlings-Jackson, who have paved the way for the better understanding of neurological problems, so that we may welcome in the spirit of friendly rivalry any additions to our knowledge, or means of acquiring it, which are placed within our reach by the enterprise of American publishers, though we cannot afford, even with our reputation, to rest upon our oars. Competition is productive of growth; a young people, and a reading people, give an encouragement to the production of works of this kind. The stimulus given to medical education by post-graduate lectures in America has led to a reproduction of the same kind of lectures in England, and we may reasonably anticipate that a similar stimulus will be given to book production by the beautiful volume which has been placed in the English market by Mr. F. A. Davis, of Philadelphia and London.

The Diseases of Children, Medical and Surgical. By Henry Ashby, M.D. Lond., M.R.C.P., Physician to the General Hospital for Sick Children, Manchester, etc.; and G. A. Wright, B.A., M.B. Oxon., F.R.C.S. Eng., Assistant-Surgeon to the Manchester Royal Infirmary, and Surgeon to the Children's Hospital. London: Longmans, Green and Co. 1889.

[Second Notice.]

The chapters on diseases of the digestive system include one on "Hernia," one on "Hare-lip," with other malformations, and conclude with chapter x. on "Diseases of the Liver and Spleen." Enlargement of the latter organ is chiefly treated of, and its association with the various cachexias and fevers of childhood. To determine enlargement of the spleen during illness, palpation rather than percussion is recommended, "as the lesser rigidity of the abdominal walls during early childhood usually readily permits of this (p. 146): it is effected by standing on the patient's right side and gently pressing two or three fingers of the right hand into the left hypochondrium beneath the costal arch, when the lower and inner edge of the spleen if enlarged can be readily felt as a movable tumour, which can be pressed upwards." We think deep percussion over the left lower ribs will often guide to the recognition of splenic enlargement, but agree with the authors, that if abnormal, the lower edge will extend below the costal arch. It is noted that enlarged retro-peritoneal glands have simulated enlarged spleen.

This tenth chapter, "Diseases of the Liver," begins: "In examining the liver of an infant or young child, it must be borne in mind that this organ is proportionately larger in the child than in the adult; it consequently occupies a greater space in the abdominal cavity, and thus to the inexperienced it may appear to be enlarged, when in reality it is only of normal size. The upper limit as determined by percussion (superficial dulness) reaches to the fifth space at the right edge of the sternum, to the upper border of the sixth rib in the nipple line, the seventh in the axillary and the ninth posteriorly, though the deep dulness reaches somewhat higher. While the edge of the right lobe does not in an adult extend below the costal arch in the recumbant position, in a child it always does. The size of the liver can be as readily estimated in a child as in an adult by percussion if the stomach is not over-distended; the lower edge can, however, be much more readily felt in a child than in an adult by placing the warm hand on the abdomen and gently pressing backwards and upwards. In most cases it can be easily determined if the edge is round or sharp or irregular." The child's liver is seldom reduced in size; acute atrophy is rare, and the cirrhosis of congenital syphilis may be found with either a small or a large liver. The liver is frequently enlarged, "due partly to its vascular nature, its veins being very readily distended, and partly also to the ready way in which it appears to store away fat."

"The best instance of its enlargement from mechanical causes is afforded by the congestion which so frequently attends heart disease, where, in consequence of regurgitation through the mitral valves, there is an obstruction to the onward flow of the blood." This sometimes excites a local disturbance, relieved by a mercurial aperient. The authors add: "There appears also often to be a temporary enlargement and a sluggish circulation in many cases of chronic intestinal catarrh, where there is said to be a functional derangement of the liver, accompanied by a loss of appetite

and pasty constipated stools deficient in bile, and an excess of pigment and perhaps uric acid in the urine. The liver is frequently enlarged from the presence of excess of fat; more rarely it is amyloid, or the seat of new growths, or abscess." Tuberculosis of the liver (p. 144) is said to be common, but rarely to cause any special symptoms; once, in a boy of fourteen years, local signs indicated large caseating tubercular abscesses. Hydatid cysts in the liver are rare before the sixth year. Multiple hepatic abscesses may occur as "the result of the absorption of some septic material from the region of the portal vein, or from some abscess in the immediate neighbourhood. . . . The symptoms consist in enlargement of the liver, extreme tendernesss, and intermittent fever. The prognosis is bad. If pus is found, it should be let out antiseptically." Here we may note some slight neglect of punctuation and polish, which a little care and attention on the part of either author would remove. The last sentence quoted might run: Pus, if found, should be evacuated antiseptically. Again, a direction, under "Swallowing foreign bodies," to avoid emetics, might be better put than "Emetics, as a rule, are not good treatment."

The marvellous advance of late years in the development of abdominal surgery is fully recognised in the work before us. The safe conduct in all that relates to operations in which the peritoneum is implicated, inaugurated by Sir Spencer Wells, is found to be as applicable to children as to adults. In this book, if the caution with which laparotomy is advised in cases of intussusception be extreme, there is no want of boldness in dealing with other accidents involving lesions of the peritoneum; exploratory incisions are fitly urged, and the free use of the aspirator, as in hydatid cysts, or of drainage tubes, is advocated. The whole subject of peritonitis in children is very ably handled; the authors, breaking loose from some tenets of their training at Guy's, and from dicta formulated there from the experiences of a general hospital rather than from institutions specially devoted to children's diseases, recognise in their district at Manchester evidence conclusive as to the existence of idiopathic peritonitis in children. This experience leaves the question of whether the peritoneum be as liable to become inflamed in children as in adults very much where it was, for if peritonitis in the adult be mostly secondary to some other lesions, so it is in children, but not exclusively so; after quoting Dr. West's case of idiopathic peritonitis, rapidly fatal to an infant of seven months old, we read: "Acute peritonitis occurs in older children by no means infrequently, often supervening in the midst of apparent health, and without cause, unless the effects of cold or of a more or less severe blow be accepted as such. At the *post-mortem* there is nothing to indicate where the inflammation commenced." Other cases are said to be secondary to tubercle, to a suppurating mesenteric gland, to ulcers of stomach, of ileum and vermiform appendix with or without perforation, to pleurisy and pericarditis, or an empyema bursting through the diaphragm; it is to be feared at the end of enteric fever, and is rare in the course of scarlet fever, "but it is not uncommon in the last stages of the succeeding nephritis, when uræmic phenomena have set in; it is then mostly of a purulent character. We have seen peritonitis *post-mortem* which appeared to have succeeded to or been associated with an acute intestinal catarrh, with symptoms of an inflammatory diarrhœa." Intussusception is also properly enumerated among the causes of acute peritonitis, though sometimes, as in the last mentioned case, the peritonitis is an integral part of the disease. A chronic peritonitis is comparatively common in children, and mostly tubercular; it may come on insidiously, even when generalised, but in no case, however limited, without rise of temperature, a diagnostic point where pain is a prominent symptom. Ascites not unfrequently results from this cause in children, during and after the second year of age, while in adults some form of portal obstruction is the commonest cause. The fluid may be slowly re-absorbed; in one case it was safely removed by capillary drainage. The conclusion come to is that "Chronic purulent peritonitis, whether tubercular or not, should be treated by incision and drainage, if the child's health is failing; and there is good evidence to show that not only may temporary relief be thus given, but long-lasting, if not permanent, recovery may take place as the result of incision." Even in acute purulent peritonitis it is important to provide an outlet for a localised abscess, to avoid if possible the fatal result of its rupture into the general peritoneal cavity. "Hence, as soon as it is clear that a local form of inflammation is not subsiding under medical treatment, the safest course is to carefully cut down upon and let out the matter. In perityphlitic abscess ('appendicular peritonitis'), when with fever, local pain, tenderness and induration and retraction of the leg no improvement takes place, an incision should be made just internal to the anterior superior spine of the ilium and the successive muscular layers divided until the neighbourhood of the abscess is made clear either by the sense of fluctuation, or by the œdematous condition of the tissues; a director is then thrust in the direction of the suspected cavity, and if pus appears the opening is enlarged with dressing forceps, and the cavity drained (p. 93). There is little danger in such an operation; even if no abscess is met with, and the peritoneal cavity is opened, no ill result is likely to follow, while the danger of rupture of an abscess into the general peritoneal cavity is very great." Whether an abscess be in the cellular tissue outside the peritoneum, or be really a local peritonitis, is of little importance, for in the latter case it would be circumscribed, and both need incision. In the case of a general purulent peritonitis, the authors say: "Should this already exist, the question of treatment is more uncertain, and the prospect far less hopeful; there is, however, little doubt that the right course is to open the abdomen, wash it out with some unirritating antiseptic, such as boracic lotion, and drain the peritonæum." Cases arise in which a counter opening is required, and here, with tubercular mischief, recovery is possible. Iliac abscesses generally do well after early opening of them. The three chapters devoted to the "Diseases of the Respiratory Apparatus" are sufficiently full, and thoroughly good; surgical intervention in pleurisy and empyema is adequately put, and the use of an exploratory needle, or the hypodermic syringe as a diagnostic aid, fairly allowed. The contrasted temperature charts of broncho-pneumonia and of acute lobar pneumonia at pp. 174 and 197 are useful; as also is one of a secondary pleuro-pneumonia and an empyema cured by incision. The sudden fall of temperature that marks the beginning of effusion in simple pleurisy is not noted, but the general course of pleurisy, with and without effusion, is correctly given.

Some exception may be taken to the arrangement by which bronchitis and its complications are separated from acute pneumonia, and especially to the latter being designated by the term "croupous." As a special seizure to which

children are liable, the distinction of acute lobar pneumonia from the more common lobular form cannot be too prominently brought forward; but the foreign name for it is a mistake; the absorbable, and often readily absorbed, exudation in the lung characteristic of this disease is in no sense croupous. Asthma and enlarged bronchial glands follow here; while laryngismus stridulus, and croup come at the beginning of these chapters, after some practical remarks on the physical examination of the chest in infants and children. Next to "child crowing" we have sections on spasmodic croup, or laryngitis stridulosa, also called false croup; on catarrhal laryngitis; on membranous croup, and on diphtheritic croup.

A table is given (p. 150) for the diagnosis of spasm of the glottis from spasmodic laryngitis, and from membranous croup, omitting catarrhal laryngitis; another column for this should be introduced under the head of catarrhal or inflammatory croup with these diagnostic points:—It occurs only in children; is worse in the very young; does not pass off in a few hours; the attack is attended with marked fever, and does not come on only at night. There is tracheitis and redness of the fauces, with perceptible enlargement of the small cervical and tracheal glands; though the dyspnœa may be great, the cough has a moist sound at times in the day, and the tendency is to recovery. The small lymphatic glands felt at the sides of the neck are to be found in simple membranous croup; the larger lymphatics at the angle of the jaw point to diphtheria or other specific fever. It is useful to know that the child has not been with others suffering from sore throat or infectious illness; in such cases no great precautions are needed in the family; moreover the hopes for the individual sufferer are not lost even if tracheotomy have to be faced. This is also the experience of the authors; they say (p. 151) "Children of all ages are liable to suffer from a catarrh of the larynx and trachea, though it is perhaps most common and is certainly most dangerous during the first two or three years of life. These attacks differ somewhat from those of spasmodic croup just described, inasmuch as there may be no violent exacerbation at night, yet in many cases all the symptoms are apt to be worse towards evening. They are mostly the result of cold, exposure to cold winds or a chill, and they may be associated with measles, either belonging to the premonitory symptoms or following the disappearance of the rash. The attacks are preceded for the most part by coryza, feverishness and cough, the first suspicious symptoms being the changed character of the cough, which is at first hard or hoarse, and then assumes the characteristic "croupy" or "brassy" character, which announces that there is some stenosis of the larynx. An examination of the fauces will probably show enlarged and congested tonsils with excessive secretion, and, if the epiglottis can be seen the mucous membrane will be found to be of a pinker colour than usual; but it is rarely possible to get a view of the larynx with the laryngoscope. As the symptoms become more marked, the air is heard to enter the larynx with a hissing sound, there is dyspnœa, the alæ nasi work, the chest falls in during inspiration, and there is often much distress. In some cases the child has to be propped up in bed, and pays no heed to its toys, its whole attention being taken up in the effort to breathe." It is further said that in membranous croup the signs of stenosis of the larynx are more marked and persistent than in catarrhal laryingitis, where, with frequent breathing and croupy cough, there are intervals of quiet, and "between whiles, and especially after a fit of coughing, the child is comparatively comfortable, and falls into an easy sleep. . . . On the other hand, the case may become so urgent that tracheotomy is repuired to stave off impending death, though usually the effects of treatment render this unnecessary. . . . The prognosis depends upon the diagnosis; if the case be one of catarrhal laryngitis, and the child is over two or three years of age, there is strong probability that it will recover. The younger child, the greater is the danger."

Membranous croup and diphtheritic croup are next discussed. Fibrinous exudations in the larynx are frequently diphtheritic; are they universally so? This question is negatived, and it is argued that such changes may result from local irritants, and from intense inflammation of many kinds; moreover, membranous laryngitis has been frequently observed by the authors in measles when no diphtheria was concerned, and occasionally as a complication both of enteric and scarlet fever. "One or two children in the same family may suffer from catarrhal laryngitis and bronchitis, while another may suffer from membranous croup, the attacks follow exposure to cold," p. 153. Attacks of influenza and of herpetic catarrh have also been so associated. But, while a fibrinous laryngitis may occur without the presence of diphtheria, it must be conceded that diphtheria is a frequent, if not the most frequent, cause of exuded fibrin. It should also be borne in mind that a laryngitis without membranous exudation may be excited by diphtheria and by other specific fevers, so that to speak of membranous and non-membranous croup as synonymous with zymotic or diphtheric and with simple croup is as wrong on general grounds as it would be in particular instances; the two terms rather point to a difference of degree found in both forms of the disease. Good evidence on this point comes from the Northern Convalescent Hospital for London at Winchmore Hill. Last year 3041 children, convalescent from scarlet fever, were under treatment; measles occurred early in the year to thirty of those children with four deaths, and whooping-cough to eighteen patients with two deaths; diphtheria occurred in twenty-seven cases, in eight cases this disease extended to the larynx, and all these ended fatally; of the remaining nineteen, two died. "There were, in addition, four cases of membranous croup, all of which died, and six cases of laryngeal obstruction without evidence of the formation of membrane, all of which recovered" (Met. Asyl. Board Report for 1888, p. 44). Four of the fatal cases and twelve recoveries occurred from March to August, seven of the deaths and five recoveries from October to December, at which time cases of diphtheria were received at the other district hospitals of the Asylum's Board; three of the four cases of membranous croup occurred early in the year, while measles was present; laryngitis, noted six times in July and August, is not a frequent complication of scarlet fever. The treatment, and all that is said and described of tracheotomy in the work before us, deserves our full acquiescence, except, perhaps, in one detail of nursing, the use of the steam-kettle. Both here and in the section on bronchitis too much stress is put upon this means of temporary relief. In cold climates, and in some houses where the sick room cannot be maintained at a right temperature, we may keep a warm atmosphere around the patient's bed by curtains and dry heat, when, as soon as the air is warmed enough, vapour will be absorbed from any moist surface or from atomised spray sufficient to make the

air easy of respiration; but steam in the air replaces so much of the oxygen, which dyspnœa is a struggle to gain, that the kettle should not be always kept going.

Diphtheria is treated of in chapter xv., here it is explicitly stated that no distinct membrane has appeared in cases where subsequent paralysis explained the nature of the original sore-throat. Again, exudation is seen on the tonsils in suddenly febrile seizures. They differ from diphtheria in "the less distinctly membranous character of the exudation, and the small tendency there is to involve the nasal mucous membrane and cervical glands" (p. 243). Difficulties of diagnosis probably lead to the opinion that diphtheria may recur many times, or that once having suffered, "does not protect, but appears to create a disposition for another attack" (p. 238). On the next page we read, "Mild cases occasionally occur in which the local lesions and general depression are slight. Membranous patches appear on the tonsils, but the nasal mucous membrane remains free, and there is no glandular swelling or albuminuria. Such patients are often running about with but little appearance of being ill, and the throat lesion may disappear in a few days. It is important to remember that in such cases paralysis may follow, or even a fatal result from cardiac failure." This is very true. We have also noticed that children who have passed through a slight attack with no other ill effects than a loss of power in the ciliary muscles for a time have escaped afterwards when exposed to infection. It would be interesting to know from those who are said to have had diphtheria many times how often any paralysis has followed. In the treatment too much is made of the view that the disease is local, though the directions given are such as are quite applicable to the malignant sore-throat of scarlet-fever, and such as materially aid the chances of recovery even when not carried out as effectually and thoroughly as desired. The use of pilocarpine on the first invasion of the larynx is not mentioned here, nor in the chapter on croup; it is given in the treatment of post-scarlatinal nephritis, p. 226, but is not referred to either in the index or appendix.

The chapters on "Diseases of the Circulatory System" include also congenital heart disease and nævus, both clearly set forth and illustrated. The section on pericarditis is of much interest. We quote (p. 274), by way of caution, a line on chronic pericardial effusion where a concurrent pleuritic effusion becomes absorbed, and adhesions form, while the pericardium remains distended with fluid. "If the child is seen for the first time when this has occurred an error in diagnosis is very easy, as the dulness caused by a distended pericardium shades away into the impared resonance given by a compressed and adherent left lung. We have several times seen in young children fluid aspirated from the pericardium by the needle passed into the axilla, when it was believed the fluid was being drawn from the left pleural cavity. In these cases the needle had passed through the compressed left lung and entered the distended pericardium." Effused fluid here is mostly reabsorbed; still the question of removing it has to be considered. Chorea has marked the ingress of pericarditis; rheumatism is mostly associated; tubercle is sometimes concerned.

Among the general diseases, a section on rheumatism occupies little more than two pages, but the part played by it is so fully described in other sections, notably in those on heart disease, on scarlet fever, and on chorea that some of the remarks under those heads will be noticed in connection with the short account given at p. 315. We there read: "Rheumatism, either in its acute or chronic form, is not common during the first four or five years of childhood; it is common after this age, but typical attacks of acute rheumatism occur less often in children than in young adults." Heredity, cold and damp, retained waste products in the blood, and the poison of scarlet fever, "seem in greater or less degree to predispose, or to excite an attack of rheumatism." Endocarditis is said, p. 280, to occur at all periods of life. "It may also occur during the two or three years succeeding birth; it is however less common at this period than in later life, though it is probably often overlooked. It is common during the later periods of childhood and youth. Like pericarditis, its usual association is with the rheumatic state, not that there is necessarily marked joint tenderness and high fever, but the patient exhibits some of the symptoms or associations of rheumatism, such as chorea, or erythema nodosum, or he has suffered from undoubted joint troubles in the past. During an attack of rheumatism, children are espcially prone to suffer from endocarditis, and the proportion of those who do suffer is greater than in the case of adults, being in the case of children perhaps 75—80 per cent.; in adults the proportion must be far less than this. Endocarditis also occurs in scarlatinal synovitis; the heart does not so often suffer here as in simple rheumatism." A child under two years of age is reported to have had articular rheumatism without high fever.

Anæmia follows most attacks. Children, like adults, are liable to relapses. It is the exception for children to escape endocarditis during acute rheumatism. We quote from p. 316; and further on: "It is a comparatively small matter if we are over-cautious in our treatment, in keeping at rest in bed a child who has but slight joint trouble and who appears to the friends to ail little; while it is a grave matter to allow a child who is suffering from incipient endocarditis to get up and run about, or to suffer one to contract endocarditis in consequence of getting up." Embolism may result from any form of endocarditis; hence a connection with one accident of heart disease and a form of hemiplegia to be considered in diseases of the nervous system. The connection of chorea, with rheumatism, is very close; the age of incidence corresponds; it is not common before the age of six years. In 252 cases fifteen were under six years, 102 from six to ten years, 135 from ten to fifteen years, 82 boys and 170 girls; the youngest child was a girl of four years of age (p. 397). Of these, forty-six are known to have had concurrent rheumatism; twenty more are said to have had rheumatic pains. In these cases "nothing abnormal was noticed in the heart's action in seventy-nine, in fifty-four there was irregularity or reduplication of the sounds, in 119 bruits, mostly heard at the apex more loudly than at the base, were detected. Some of those bruits were, no doubt, anæmic, inasmuch as they were present only at the base; it is seldom, however, possible to say dogmatically that a bruit heard during the course of chorea is simply hæmic, and it is necessary to have the patient some time under observation for a long period during convalescence before we are in a position to say if a so-called hæmic bruit is due to organic disease or not. It is well also to remember that endocarditis may occur, and yet no bruit be produced" (p. 401). It is in facts and remarks such as these that the great and special value of the book, in our opinion, consists.

Short Notices.

Strathpeffer Spa, its Climate and Waters. By Fortescue Fox, M.D., Lond. H. K. Lewis, 1889.

We are glad to welcome another contribution to the scanty literature of the British spas. The description given by Dr. Fortescue Fox leaves little to be desired; it is an invaluable little handbook, worthy of the attention of medical men who wish to know what manner of place it is to which they send their patients, and also likely to be of service to the visitors who require a guide on arrival at the spa. The sulphur and chalybeate waters must be very useful adjuncts to climatic treatment, and those who require bracing air may well weigh the advantages which Strathpeffer affords before accepting the alternative of a long journey to a foreign spa.

R. Shingleton Smith.

The Mechanism of the Circulation of the Blood through Organically Diseased Hearts. By Herbert Davies, M.D., F.R.C.P. London: H. K. Lewis, 1889.

These papers, the work of the late Dr. Herbert Davies, edited by his son, Dr. Arthur Templer Davies, are the result of many years' careful study and matured thought on a subject in which he took the most profound and deep interest. Their object is to investigate the mechanical conditions in the working of the diseased heart in accordance with the established fundamental laws relating to the physiological mode of working of the healthy heart, consisting of its two functionally distinct and perfect muscular organs, provided with their respective valvular appliances, and performing very unequal physical tasks. These laws are:—1. The corresponding chambers of the right and left hearts receive and expel their contents exactly synchronously, respectively, the two auricles contracting in unison and dilating in unison, and the two ventricles exhibiting, respectively, synchronous action in their systole, as well as diastole; and, 2. Equal volumes of blood pass, in equally and the same time, through any two corresponding orifices of the heart. These two principles are applied to the different forms of valvular disease, and various interesting facts are deduced. No abstract is possible; the book is a small one, and cannot be still further condensed.

L'Atonie Intestinal et ses Complications. By Dr. Ch. Malibran. Paris, 1889.

This is an interesting work, Dr. Malibran having had special opportunities of observing the diseases of the digestive canal, owing to his practice being at one of the thermal stations, which has a great reputation for the treatment of intestinal affections. He believes that the majority of these affections have a common root in intestinal atony. Patients who had submitted to a variety of treatment for affections variously diagnosed as constipation, pseudo-membranous enteritis, enteralgia, intestinal rheumatism, typhlitis, colitis, intestinal dyspepsia, etc., were all thought by Dr. Malibran to be suffering from intestinal atony with other complications, capable of satisfactorily explaining the sequence of morbid phenomena. He divides the causes into three groups: insufficiency of sensitive impressions, of nervous motor action, and of contractility; the last including organic and functional insufficiency. It is the most frequent form in which atony is engendered, whether by excess of contraction, excess of tension, or by paralysis. The author divides the complications into mechanical or irritative, and infectious. The clinical study of these disorders is very ably discussed, and the therapeutics are given in greater detail than is usual in works of this kind. The work is especially useful to the general practitioner. H. R. H.

Les Agents Paovocateurs de L'Hysterie. By Georges Guinon, 1889.

This work has been compiled under the immediate supervision of Professor Charcot, and is devoted to the study of the exciting causes of hysteria, and their influence on the different modes in which the neurosis is developed. The first part is exclusively clinical, and contains many references to ancient authors who had recognised many of the provocative agents, but entirely failed to correctly estimate others. The exciting causes are thus classified: *Moral emotions* (attempted hypnotism, nervous shock, earthquakes, traumatism, thunderclap, etc.); *general and infectious diseases* (typhoid fever, pneumonia, scarlet fever, rheumatic fever, diabetes, malaria, syphilis); morbid conditions, characterised by great debility (hæmorrhages, overwork, mental or physical, onanism, venereal excess, anœmia, and chlorosis); *Intoxication* (chronic, such as lead, alcohol, mercury, sulphuretted carbon, or acute, such as by chloroform); *diseases of the genital apparatus, and diseases of the nervous system* (sclerosis, tabes dorsalis, Friedreich's disease, etc.). This list is far from being exhaustive, as many exciting causes are only occasionally harmful, and not specific. The second part of the work treats of these occasional causes, and great pains are taken to establish in each case that the disease is true hysteria. It is admitted that the same exciting causes which produce hysteria may also give rise to other nervous troubles, and especially to neurasthenia, the combination of which with hysteria has led to much confusion in nosography. This combination of different affections due to the same causes is easily understood, when it is considered that the exciting causes are of a commonplace character, although only occasionally harmful. The exciting cause however often determines the distinctive character or peculiarities of the neurosis. The bibliographical researches in Mr. Guinon's work are very extensive, and the whole book is written under the inspiration of Professor Charcot; it throws an important light on the essence of the disease known as hysteria, and not merely on the varied phases which the hysterical neurosis may assume. H. R. H.

Hemiplégie Syphilitique. By Professor Pitres.

This is a good clear exposition of our present knowledge of cerebral syphilis. Professor Pitres has gathered together eight cases of hemiplegia, following syphilis of from one to fifteen years' duration. After recapitulating the lesions which cause this affection, the professor goes on to show what are the premonitory symptoms, and attaches most importance to simultaneous vomiting and headache, the latter being deep-seated, intra-cranial, violent, obstinate, and aggravated towards night. The work concludes with the diagnosis and treatment, which if commenced early will obviate many of the graver symptoms. H. R. H.

The Provincial Medical Journal,

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THIS trial, remarkable in every respect, will form an important precedent in medico-legal cases. It appears to us as almost puerile to dwell on the discrepancy in the medical evidence; it is no more remarkable than the fact that Sir CHARLES RUSSELL was engaged for the defence, and Mr. ADDISON for the prosecution. The learned counsel on both sides presented the case in all its bearings, as they looked at the facts and interpreted them, and we believe that both Sir CHARLES RUSSELL and Mr. ADDISON were actuated by similar influences—a desire that justice should be done. The bar surely exists for this purpose alone, and not simply for the display of forensic eloquence, or for the escape of a criminal by the aid of technical loopholes. We say this in all faith, for the medical profession does not fling stones at the profession which gave rise to the saying "that doctors disagree." The commentary of Justice STEPHEN on the case, so far as the medical evidence was concerned, strikes us as being conceived in a narrow view of thought, and as unworthy of the best traditions of the bench; whilst his remarks about a doctor and drugs was really a misquotation. It was an "apothecary" who was defined as a person who poured drugs about which he knew little, into a body about which he knew less. An apothecary and a doctor are very different personages; but we may pass over without further comment all these ungenerous allusions to the profession in the judge's charge. Judge STEPHEN, happily as yet, has not required any serious medical attendance; when he does require medical aid, and when he has thrown his life into the hands of some eminent practitioner, he will then value the aid he will receive, and will probably alter his opinion, "that an hour is a long time for a medical consultation;" and he will, moreover, find that the personal sympathy of his medical attendant, and skill, will be factors about which he will have a much higher conception.

The medico-legal aspects of this painful domestic tragedy concern every member of the profession. The poison arsenic is one commonly sold, rendering itself readily to the poisoner. We may at any moment be placed in the same position as the Liverpool medical men. The symptoms of acute and chronic arsenic poisoning are very faithfully described in our text-books, and the differentiation between the *post-mortem* appearances of arsenical poisoning and disease is clearly made out. In text-books, however, the authors are tied down: they can only give general symptoms; they cannot extend their matter, and detail those departures from the ordinary types, which occur in connection with almost every case of poisoning; so that the absence of several prominent symptoms does not invalidate the view that Mr. MAYBRICK died from arsenical poisoning. The evidence for the prosecution was overwhelming; the presence of arsenic in the body, *post-mortem*, the symptoms, all pointed to this agent as the exciting cause of the gastro-enteritis which existed. The absence of certain symptoms did not weaken the evidence. In many diseases we do not have all the classical symptoms; but we have, as a rule, sufficient to account for the phenomena, and to classify the disease. The answer to the question given by the defence: "If not arsenic, what caused the gastro-enteritis?" did not satisfy us. "Could cold cause it?" This was suggested by a very eminent Dublin practitioner; but we hardly think this view will find many adherents. Dr. TIDY, though he denied the theory of arsenical poisoning, yet could not suggest, in answer to Mr. ADDISON, any cause for the gastro-enteritis, and here he strengthened the case for the prosecution. Here are Dr. TIDY'S words:

"I cannot suggest what caused his death, and cannot suggest what substance it was which acted on him as an irritant. The sickness was not like that of arsenic."

It is clear that the sickness was not like that of arsenic, as described in our text-books; but we believe that some of our text-books state that symptoms vary. Even HUSBAND'S elementary book says: "Certain anomalies may occur. The pain may be absent or but slight. Vomiting and purging do not occur in all cases; nor is thirst—a most persistent symptom—always present. . . ." Dr. TIDY may have made to himself a mental reservation as to the nature of the symptoms differing from the classical symptoms, hence his position in the witness-box. Any number of negatives could hardly weaken the evidence of Dr. STEPHENSON, in view of the finding of arsenic in the liver, and the symptoms there were of gastro-enteritis, plus some of the symptoms of arsenical poisoning observed during life, and substantiated by the evidence of medical men who were in attendance during life. The medical aspects of the case have no relation to the question of motive, or to the moral sides of this great trial. Even the presence of such a quantity of arsenic in the house—in bottles, in handkerchiefs—had not to be taken into account by the medical experts for the prosecution.

But all these points had to be considered by the jury, and as the judge laid down, they were not to look upon it from a medical or a chemical side, but from a general point, taking into consideration her lettters, her statement, the motive that may have influenced her; all the facts which were brought out in the course of the trial. The verdict was in full accord with the evidence, and however painful it may be to bring in a verdict of guilty, the jury faithfully discharged their duty.

IN writing on Cambridge there are many difficulties, owing to the wealth of material which forces itself on the writer, even though he may not have made a particular study of the subject; but the chief difficulty lies in attempting to do justice to so large a subject in a compass so narrow as that of the following article. There has always existed a good deal of what may be called the criticism of comparison between Oxford and Cambridge: their respective excellencies in learning, teaching, architecture, and athletics are

pretty widely, and even acrimoniously, discussed. The most striking phase of the modern development of Cambridge is the great prosperity and rapid growth of its natural science and medical side, in which it has shot far ahead of Oxford, though perhaps it may not have advanced at an equal pace with the sister university in studies of a kind which may be said to appeal less to the practical side of life. Comparisons between the actual towns have been made in the greatest abundance; perhaps the least obvious one is the best—namely, that "Cambridge is more grandiose, while Oxford is more grand." This, though it may not satisfy a purely mathematical mind, is on the whole fair, if obscure. Cambridge has not been well off for appreciation; people take it too much as a matter of course. If the University were wise, it might be induced to appoint a body of admiring and æsthetically-minded Americans (preferably Bostonians) to act as guides and instructors to a large body of its graduates and undergraduates, who would then be enabled in turn to diffuse to the outer world a leavening of the knowledge of its manifold and indeed innumerable charms. Situated as it is in a country created with no exaggerated beauties, it has been unfairly taxed with its natural flatness, because the neighbourhood has no imposing rocks or hills to give it claims to orthodox and obvious picturesqueness; indeed, the Cam itself above the town is nothing but a charming brook. Cambridge can boast of having educated a long line of poets in succession, the list beginning with Chaucer, and ending with Byron and Tennyson; yet none of them seem to have found any great inspiration in its exquisite stretches of lush-green water-meadows; its marshes aflame with yellow marigolds, and gemmed with the orchid-like blossoms of the sagittaria, through which willow-fringed streams wind slowly, among groups of poplars. The charm of such landscape may after all be more apparent to the painter than the poet, as it lies lightly wrapped in mist, or bathed in sunlight, waiting for a fresh Corot or Cuyp to lovingly paint it.

There have been two ancient Roman settlements, either of which may have been the origin of the modern town of Cambridge: one round the Castle Hill (itself an ancient British defence), and the other at Grantchester, of more former importance, and higher up the Cam. Indeed, the fields between Cambridge and Grantchester have been covered with Roman villas, and the plough continually laid bare their foundations as late as the sixteenth century. A castle was probably built during the Danish wars, when the town suffered much, having been plundered and burnt in 871, and eight years later formed the headquarters of the three Danish Kings—Guthrum, Oskytel, and Anwind, who laid waste this side of England with their army. Some years later the Cambridgeshire men made a good stand against the Danes, and earned for themselves fame in Saxon story; but their efforts were vain, and the country was ravaged again, and the town burnt in 1010. This stormy history continues after the Norman Conquest, during the struggle between the Normans and the Saxon patriots, who had taken refuge in the fens of Ely and Lincolnshire; for the next two centuries the military importance of Cambridge continued, as a rallying-point against the turbulent and rebellious Barons who took continual refuge in the Isle of Ely. Immediately on the death of King John, Louis (the Dauphin of France) came over and held a council with the Barons at Cambridge, intending to become their leader; in fact, all through these early times the place had a most stormy existence. In the fourteenth century the Castle was still being kept in good repair, and we find Edward III. granting lands in the county, by the tenure "of holding the King's curry-comb at whatever hour the King should mount his palfrey at the Castle of Cambridge." The civil troubles of the seventeenth century again affected the town when it became Cromwell's "prime garrison" in 1642, and the Castle Magazine was seized; the Castle itself must by this time have been in a ruinous state, as Camden, in his "Britannia" (1555), speaks of it as "a large antient Castle, which seems now to have lived out its full time." These few historic facts curiously exemplify how the history of every ancient town in England is very nearly identical with that of the country at large.

Of the different colleges it is impossible here to give the barest outline of their origin and growth, however interesting it would be to an antiquary; but much may be seen "writ large" in the various styles and periods of their architecture and ornaments, which comprise additions by every generation. By far the noblest building in Cambridge is the Chapel of Kings College, a perfect piece of architecture (designed for Henry IV., the founder of the college), which for beauty even excels such buildings as Henry the Seventh's Chapel, Westminster, or Saint George's Chapel, Windsor. It is probably the best known building in England, and fills everyone with delight, except unfortunately Mr. Ruskin, who is said to have likened it to a billiard table, with its legs in the air; Wordsworth seems here a better art critic than the Sage of Coniston, and in his fine sonnet on it has spoken beautifully of it as "the glorious work of fine intelligence." The chapel is the only part of the King's original most sumptuous design that was completed, and it must ever be borne in mind that the original designer intended to break the sky-line, now so uniform, with a lofty gate-house and a loftier bell-tower, and that it was built to be only a college chapel. In every aspect it is lovely, whether by sunshine or moon-light, from near or afar, seeming to spring from the green turf with the spontaneity of a flower and a lily-like purity. The interior is superb; the windows, which are its leading architectural feature, are filled with the finest old glass, rich in symbolic type and anti-type. As the sunshine streams through them, lighting up on its passage (in the language of the old Deed in which they were contracted for), the "perfyt glasse and oryent colours and imagery of the story of ye old lawe and ye new lawe," filling the air with mysteries of coloured shade, and forming a glorious atmosphere through which to gaze at that roof of fretted stone, seeming lighter than wood

and more delicate than ivory carving, and those walls royally blazoned, the conviction is forced on us that here at least we have absolute perfection defying criticism. King's is the first of the series of adjoining colleges which stretch their lawns down to the Cam, and form "The Backs;" the river is here a pure, winding stream of ornamental water, forming a mirror for green sward, stately lime trees, and Palladian bridges. Clare College comes next to King's, and its "rococco" architecture forms a grating contrast to the neighbouring Royal Chapel, and the beautiful unfinished fifteenth century gate of King's; however Clare is lovely in autumn, when the creeper covering the hall fills the whole of one court with a scarlet glory of colour. Passing along the "Backs," next comes Trinity, now the vastest college in the university, and possesses the best college library, the windows of which command the choicest views of turf, trees, and waters, in Cambridge. Entering from the street, and passing under the glorious entrance gate, covered with the arms of kings and princes, in the midst of which is a statue of Henry VIII., you face the hall and chapel. This is the "great court," and in its centre is a beautiful, ever-flowing fountain. The chapel is not specially fine, but is one of the few known edifices of Queen Mary's reign: the hall itself is, within and without, as beautiful a specimen of mediæval work as can be seen. Passing between the master's lodge and the hall, one reaches Neville's Court (built by the master bearing that name); it has a beautiful Renaissance Tribune facing the stately library, and is surrounded by an arcade of delicate proportions, with arches of harmonious curve. The mixture of styles in Trinity has its charms, and does but echo the widely differing characters of its most illustrious sons, among whom are such as Bacon and Byron, Whewell and Macaulay. Tennyson often must have strolled under that "long walk of limes" with Arthur Hallam, never dreaming he would one day have to revisit alone this scene of their perfect friendship "to see the rooms in which he dwelt" and turn in sorrow away . . . . . "Another name was on the door." It is a curious coincidence that two of our greatest poets, both Cambridge men, should each, by the untimely loss of a college friend, have added to the treasures of our literature two such poems as "Lycidas" and "In Memoriam"; each differs in form and expression completely, but both strike the same real note of sorrow. It would be pleasant to have space to treat each college in detail, but to give a mere catalogue of the illustrious men which each has at some time held in its walls would make in itself a work, formidable in length. We must go through the stately modern part of John's, rather severe in the accuracy of modern Gothic, across its covered bridge, which bears a likeness to the Venetian "Bridge of Sighs," and reach its old courts of time-stained brick, in the Tudor style of Hampton Court, they are quaint but depressing, and the Chapel, which is modern, in spite of its fine tower, is inharmonious and aggressive in outline, and its stone neither contrasts nor harmonises with the Tudor brickwork. To go back more to the centre of the town, noticing the University Church, Great Saint Mary's, and the continental-looking market place behind it, and, turning down the lane near the Senate House, leads one to the "Gate of Honour," one entrance to Caius' College, with its memories of its great benefactor and part-founder, the scholar and antiquary, the physician to Queens Mary and Elizabeth. Dr. Caius so added to and endowed his own old College, Gonville Hall, that he gave his own name in addition to it. This has been, and is still, the essentially medical college of Cambridge, and out of that old "Gate of Honour" Harvey, the discoverer of the circulation of the blood, must have passed; the epitaph of the founder on his tomb in the College Chapel is pathetic in brevity, "Caius fui." Quite away in the fields lies Jesus' College, clustered around and comprising the old Nunnery of Saint Rhadegunde; it has a distinctive character with its noble old chapel dimly lighted up with fine glass, by Morris, and its solemn cloistered court brooding under the shadow of the old four-square tower. Singularly beautiful, too, are its three-sided courts and lofty turretted gateway of warmly tinted ruddy brick, wreathed with ivy, and festooned with the faint lavender-coloured blossoms of the wisteria; but above all praise is the view from these courts across to the distant colleges with their towers and pinnacles peeping out among the ancient limes and elms. Much might be said of other colleges, including Christ's, with its memories of Milton and his ancient mulberry tree; a coeval of the Stratford-on-Avon tree, which grew in Shakespeare's garden till the last century, and relics made from which were treasured by Garrick. Peterhouse, the original College of Gray, whose window still shows the iron bar fastened there to aid the timid poet's escape in case of fire. Pembroke, opposite to Peterhouse, the College of William Pitt, and the tranquil abode of Gray's later years, and where he died; he left an ample monument to fame in his "Elegy," and his own charming letters; his was a fastidious over-refined nature, and essentially not of the eighteenth century. One smiles and seems to know the poet better on reading his generous will and the enviable bequest to his second cousin, Anna, Lady Goring, of "a pair of large blue and white old Japan China Jars." Then there is Magdalen, with old Samuel Pepys, the diarist, as tutelary god and its pretty brick river-front, and the Pepysian Library, abounding in rare prints and the rarest of old broad-side ballads. Then there is Sidney Sussex, with its Cromwellian associations and Emmanuel of Puritan memory; this last, the College of Harvard, who carried the traditions of Cambridge away to the New World.

Downing College must not be omitted, with its buildings of a style once favoured for county lunatic asylums, but its fellows' gardens are pretty, and contain good trees. Away in a bleak spot out of Cambridge lies desolate Cavendish, looking like a half-finished railway hotel. On the other side of the town is Selwyn, unfinished as yet, but what is built, clerically handsome, with red brick and white stone. Between Selwyn and Cambridge is Newnham, of which, and Girton, no

profane male may speak with authority; outwardly they are pleasing, and of brick. Such are just the barest skeleton outlines of some aspects of Cambridge and its colleges. To complete the picture, add in many students flying about in the morning in cap and gown from lecture to lecture. In the afternoon the same busy forms, only now clad in coats of many colours ("blazers"), are rushing off to tennis, to the river, or to cricket, or whatever other game you can imagine, filling the old courts, streets, and lanes with life and motion. To judge from externals, Young England, as seen at Cambridge, is a bright, cheerful, healthy collection of young men, apparently unmindful of the sad seriousness of life, untouched by the "welt-schmerz," and not likely to develop into fresh examples of the "Robert Elsmere" type.

W. Armstrong Willis.

The laymen who had the fortune to hear the address of the President of the British Medical Association would be able to fully appreciate the point of the story told by Sir James Kitson at the dinner of the British Medical Association, and we believe that the story would never have been told or even originated had it not been for Mr. Wheelhouse's address. A lady staying at Sir James Kitson's was introduced to another guest, and with the privilege allowed to her charming sex, she asked, "I presume you are a young doctor?" "Yes," was the reply. "Ah, then you have not had time," she replied, "to do much harm." The profession, so ready to smile at jokes directed against medicine, received this chestnut with full appreciation of the humour; but Mr. Wheelhouse really inspired the joke by his elaborate description of the ignorance of the average young qualified practitioner. We expect a plentiful crop of this class of tale; we also expect leaders and paragraphs on the folly of trusting the public health to men of whom their own leaders can so speak in public, and certainly we cannot use many arguments in favour of the qualified against the unqualified with any degree of logical consistency when a member of the Council of Medical Education can on a public platform so openly expose our system of medical examination. It may be a grave question as to the truth of Mr. Wheelhouse's description, but, unfortunately, it is not Mr. Wheelhouse we have to deal with, but the President of the British Medical Association; he is now invested with a degree of importance which places him on a much higher level than that of a general practitioner; his words will be quoted and quoted, and what may be only an individual opinion based on error, becomes in the President of the British Medical Association an authoritative utterance. We question very much the wisdom of ventilating the grievances and the defects of the profession before a public audience. If discussion could have followed on the paper then, some justification could be found for introducing such controversial and defamatory matter.

If reform could even be obtained in this way, we could understand why the subject was introduced; but seeing that the question of examination rests with the Medical Council, seeing that we have organs for the discussion of medical matters, we fail to see any advantage from washing our dirty linen in public. It is right and just that if the system of medical education be as imperfect as Mr. Wheelhouse asserts it to be, that it should be remedied; but as we know, there are two sides of the question, and we have so far only heard, and the public will only hear, one side. A popular audience, partly medical, partly lay, heard the address; the columns of the lay press carried it next day over England, and we can imagine how at the present time when medical science is sneered at over the Maybrick case, the words of the President will be quoted as justifying the popular prejudices against medicine. The young practitioner is not fairly treated. He is innocent, for he has complied with the regulations laid down by the Council, upon whom rests any blame. We are astonished that such an *astute* practitioner as Mr. Wheelhouse should have chosen such a subject for his address, but Homer sometimes nods, and one of our shrewdest general practitioners may sometimes even make a mistake. It is more complimentary to Mr. Wheelhouse to honestly criticise his address than to pour on it the fulsome flattery which is annually poured on the readers of addresses in the editorial columns of the *British Medical Journal*. These stereotyped phases of compliment, we would almost suspect, are kept in stock, and with a little change they appear from each year appended to each presidential address—a custom certainly more honoured in the breach than in the observance. Whatever we may think of the subject of the address, we can only have one opinion as to the form in which it was conveyed. With a clear enunciation, and in language aptly chosen, and occasionally rising to eloquence, Mr. Wheelhouse strove to interest his auditors, who could follow his arguments and his periods without straining their ears—a pleasure not always experienced at presidential addresses.

The great capacity of Mr. Wheelhouse, perhaps, made us all the more disappointed with his subject-matter. We, knowing his surgical skill, hoped for some original contribution, something beyond old wine in a new bottle, for after all this question of examination and pupilage is threshed out in the old journals almost on the same lines as in the address; something, in a word, that would add to the fame of the Leeds School of Medicine, and something that would live to Mr. Wheelhouse's credit.

We commenced this article with a story and we finish it with another. The moral lies in the last line. "If you will permit me to say so, doctor," remarked the patient, "Science has in you one of its most persevering disciples." The doctor's face expressed the gratification the compliment gave him, and the patient continued, "But I have one favour to ask of you." "Name it," said the pleased and smiling Galen. "You have treated me scientifically for six weeks." "Yes." "Well, give me something to get well on."

"*Point de Zele*," said TALLEYRAND to a youthful aspirant for office. Dr. BALLARD re-echoes the advice of the old French politician to the young medical officers of health, who may feel impatient at the restraints imposed on them by ignorance, stupidity, and cupidity. Youth is the time for generous impulses. The young practitioner, seeing death following on neglect of sanitation, feels indignant that steps should not be at once taken to arrest disease, and he expresses his opinion. He wants something done, and done quickly; but in his way stand prejudice, obstacles in the shape of red-tape, and feeling his powerlessness, he gives vent to some expressions, and then he is doomed. His impatience to do good is a grievous fault. He should not excite himself over his work: he should have a share of the "tact" which is so possessed by the Board to which he is health officer, and this tact, called by another name, is "masterly inactivity." We certainly are of opinion that the virtue of tact is very largely possessed by medical officers of health; and if this qualification were not possessed, there would be few medical officers of health of long standing, or of long tenure of office. We can trace the influence of tact over geographical areas, and we could give a coloured chart of certain towns where tact and masterly inactivity were synonymous.

The words of warning uttered by Dr. BALLARD will have a due effect on the holders of health appointments; and if long tenure of office be the end in view, by the observance of the rules laid down by one who is a veritable NESTOR in the public service, permanency of tenure will be secured. But Dr. BALLARD, though he advises tact, though he encourages young men to bear patiently the snubs and insults they will receive, yet does not, we trust, desire his advice to be taken in too literal a sense. Knowledge comes before tact, and he has told us in his very practical address what the requisites are for an efficient medical officer of health. With knowledge and with tact the medical officer of health will be able to guide the public health; and as tact comes from long training, we may look hopefully to the future, even though a few go down in the struggle during the years of patient endurance, "which patient merit from the unworthy takes." The medical officer of health is not an admistrator, he is an adviser. These are weighty words, and should be remembered. Dr. GOLDIE, of Leeds, for sixteen years was medical officer of health for Leeds. It took the Sanitary Committee sixteen years to find out his, shall we call it inefficiency; yet the Mayor of Leeds, at his speech at the banquet of the British Medical Association, pointed out in terms of pride the successful results obtained during Dr. GOLDIE'S administration. Had Dr. GOLDIE possessed a very small degree of tact, he might still be medical officer of health for Leeds; for he would have been able to smooth over the little difficulties which led to his resignation. It is very evident, from the evidence which led to his resignation, that he tried to be an administrator as well as an adviser, and he might have spared himself much anxiety and trouble by confining himself purely to advisiorial work, throwing on the sanitary inspectors all the detail of administration.

Dr. HIME, of Bradford, affords us another instance of the want of tact. There can be no question of Dr. HIME'S capacity, or of his educational position; yet he was sacrificed, because he did not possess this needful qualification—the art of humouring the Sanitary Committee. All this seems very pitiful, but how true it is. The medical officer of health, says Dr. BALLARD, must have "that acquisition of rare value, tact, the possession or lack of which might make all the difference between the *successful* and the inefficient medical officer of health. Deficiency in tact was a fault chiefly observable amongst the junior members of the confraternity. Anxious to serve their district, earnest and enthusiastic, they chafed at obstacles which they found impenetrable, and were ready to give up a strife, which over and over again terminated in their discomfiture. It was men of this stamp (and they were not always—he said it with bated breath—young men) that he heard perpetually calling out for central interference. They forgot that they were advisers, not administrators; that good and proper as their advice might be, there might be difficulties not apparent to them in at once pursuing it. A medical officer of health was not an autocrat; it was never intended that he should be one. Often and often it had happened that health officers, who had made this mistake, had sought his condolence with them in the tribulation they had thus brought on themselves. They all got from him pretty much the same advice, which was to be patient, to bear with the infirmities of their weaker and less intellectual brethren, and keep their own consciences clear amidst all discouragements by carrying out their duties to the best of their ability, and leave other people to look after their's."

Medical officers of health in possession should thoroughly grasp the truths in the above sentences, and pin them in their memories. The saying of poor RICHARD, "Mind your own business," pretty much comprises all that is contained in Dr. BALLARD'S advice, the medical officer has only to ascertain what his business is.

Annotations.

"Forsan et hæc olim meminisse juvabit."

MEETING OF THE BRITISH MEDICAL ASSOCIATION.

MAY we pronounce the Leeds meeting a success? If we accept the opinion of the profession in Leeds we may, but the profession in Leeds are interested witnesses, and are out of court. The number of visitors was not so large as we expected, and the absence of metropolitan men was notable. There were a few of the most eminent metropolitans, and some think that this meeting was none the worse for having so few metropolitans—that is an open question. Considering the work done by the organising committee, the arrange-

ments for the comfort of the visitors, the pleasure excursions, the meeting ought to have been a success. Private hospitality was most generous, and the public entertainments left nothing to be desired.

THE ANNUAL MUSEUM.

Unfortunately, the room devoted to the exhibits of drugs and surgical instruments was of a very limited size, and the general effect of the stalls was not so good as usual. The exhibitors were cramped, and could not display to such advantage their specimens. We understand that they were charged two or three shillings per foot for their stalls, a custom which we hope will not be established for the future. The exhibitors incur a very heavy expense in attending these meetings, and they should not be taxed in this way. The exhibits are highly instructive; we derive a certain advantage from seeing all the newest drugs, appliances, etc., and we hope that the firms who send their specimens also reap some profit. We should encourage the exhibitors. We believe that it would be highly advantageous to the association to have a permanent secretary to look after the museum and its arrangements; one who really understands the proper organisation of this kind of exhibition. Local secretaries are new to this kind of work; they have to learn their duties, and they have to sacrifice a certain amount of time and energy, and they have only one chance of showing what they can do in the way of organisation. This permanent secretary would take all the heavy work off the local secretaries (for we do not desire that the local officers should be abolished), and we believe that by any arrangement of this kind the museum might be very much improved. We publish in another column a detailed account of the museum.

DR. RENTOUL'S RESOLUTIONS.

The series of resolutions drawn up with such elaboration by Dr. Rentoul were withdrawn, and a single resolution was passed, referring the general question to the council of the association. A large number of members were interested in these resolutions, and much disappointment was felt at the absence of discussion. The atmosphere would have been cleared a little by free ventilation of views, but this is all that would have resulted from a discussion of the resolutions. If the council takes the question up with spirit, if the council will receive evidence, some good may result from the reference; but if the council be apathetic, or if the council wants to shelve the matter, the reference will be useless. We must hope for the best.

MR. EDMUND OWEN AND THE JOURNAL.

Mr. Edmund Owen had just grounds for bringing before the notice of the Council the editorial note which appeared in the *British Medical Journal*, seriously reflecting on him. The letter which drew forth the editorial thunder appeared in a subsequent issue, and we were very much astonished to find that Mr. Owen's letter was a very innocent one indeed, and certainly not deserving of the very harsh language used by the editor. The note reflected on Mr. Owen's character, and the apology tendered to him by the Council was fully deserved. The assessors of the journal, Dr. McAlister and Dr. Farquharson, are not to be congratulated on this episode, and if the supervision over the journal is to be of this nature, the couple of hundred a year will have been a very bad investment.

THE HOSPITAL QUESTION.

The Council have made a forward step. The profession at large will receive with favour the support given by the Council to the resolution, passed at the recent meeting, supporting the plea for a Royal Commission on the hospitals. If the British Medical Association is to prosper it must be in touch with the general practitioners; the Council appears to be alive to this fact. The journal has well supported the recent outcry against hospital abuse, and it has thus strengthened its hold upon the members. The signs of the times point to success on the part of the agitators for needed reform. It is through the Association we can best move.

SECRET POISONING.

Is secret poisoning common in Great Britain? Is it on the increase? These are startling questions, and we cannot here answer them offhand, because the evidence is only circumstantial and rests on suspicion. It is difficult to bring home guilt to the poisoner; we may suspect secret poisoning; we may, by showing our suspicions, stop the use of the poison; but our tongues are tied, because without the strongest evidence we cannot utter the thoughts we may have. A moral certainty is different from scientific certainty. The law as to certificates of death is very extraordinary. We are compelled to give certificates of death—if we refuse we are censured, or threatened with a lawsuit. We may have suspicions as to foul play. Sometimes the position is a painful one. What our duty is each one's conscience will dictate.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

The attack made upon the journal was not a very vigorous one. The letter sent to the Council required a dignified but crushing reply. The honour of the Association is in the hands of representatives of the profession, to whom the profession is as dear as it is to the signatories of the letter. The resolution, passed on the motion of Mr. Lawson Tait, and seconded by Dr. Barnes, should settle the question. The force of the opposition was weakened by the suspicion there was that the attack on the journal had a commercial origin; in other words, that it was prompted by a rival organ which once had a large circulation. If that journal approves of signed articles and signed reviews, why does it not adopt the system?

THE PREVENTION OF RABIES.

The following order has been issued from the office of the Privy Council. These who have followed the articles which have appeared in the Provincial Medical Journal will recognise the similarity, in the order issued, to the recommendations we have urged in season and out of season.

Agricultural Department,
Privy Council Office,

44, Parliament-street, Westminister, S.W., July, 1889.

Sir,—I am directed by the Lords of the Committee of Council for Agriculture to request that you will have the goodness to inform your Local Authority that the Privy Council are advised that in making regulations directing the muzzling of dogs on account of rabies, although it may be desirable that exception should be made in favour of packs of hounds, harriers, or beagles, or greyhounds or other sporting dogs, while being used for sporting purposes, or to any other dogs while being used for the capture or destruction of vermin, and in charge of competent persons, there does not appear to be sufficient reason for extending this exception to drovers' dogs or to dogs used for driving animals, such dogs being most dangerous to other animals, if they become "rabid," besides being able to perform their work without biting.

I am further directed to request that you will point out to the Local Authority the insecurity afforded by any alternative regulation which permits a leading strap or chain to be substituted for the muzzle, it being clear that a led dog (if he is unmuzzled) is able to bite any person or animal that may happen to pass within his reach; and this objection even more strongly applies to an alternative regulation which permits dogs to be in a public place under what is called control.

It would appear therefore advisable in applying regulations to any particular district to insist on the muzzling of all dogs (other than dogs while being used for sporting purposes or for the destruction of vermin as before mentioned) whilst being in any public place, whether the dogs are led or not, with a muzzle so constructed as to render it impossible for the dog while wearing the same to bite any person or animal.

The Lords of the Committee are of opinion that it would be useful if, at the foot of handbills announcing regulations, the following short description of the most marked symptoms of rabies in dogs were given:—

"Change of habits, restlessness, moving from place to place, often hiding in dark secluded corners, depraved appetite, gnawing and eating indigestible substances, altered voice, difficulty of swallowing but showing no dread of water, thick viscid saliva hanging from the corners of the mouth which the dog tries to remove with its paws, frequently snapping at the air or imaginary objects. These symptoms in the furious form of the disease are followed by paroxysms of excitement, in which there is an irresistible tendency to bite and attack other animals, especially dogs: the animal then wanders from its home, biting and snapping at every animal that may come in its way, emaciation and exhaustion rapidly follow with loss of nervous power, partial paralysis often supervenes and the animal drops and dies if it has not previously been destroyed.

"In the dumb or torpid form of the disease the premonitory symptoms are followed by dropping or paralysis of the lower jaw, rendering the animal unable to bite or bark, the tongue swollen and livid hangs out of the mouth, the dog in this condition seldom leaves its home but endeavours to remain quiet in some dark place, takes little or no notice of what goes on around it, paralysis of the hind limbs soon set in, and death quickly follows."

I am, sir, your obedient servant,

C. L. Peel.

INFANTILE INSURANCE.

The report of the Select Committee on Friendly Societies has just been issued. The Committee state that the public sympathy and indignation having been aroused by recent cases which have come to light, in which the money insured for, on the death of infants, appears to have acted as an incentive to neglect and even to murder of children, the committee directed their inquiries with special care to this branch of the subject. Several witnesses, including two coroners, expressed a strong belief not only that infant insurance is an incentive to crime, but that a widespread system exists, under which much neglect, cruelty, and crime takes place with impunity. From the nature of the cases it is almost impossible to obtain direct and inculpating evidence of criminality of this character, which is chiefly committed by a single individual in the privacy of home. The Committee believe that sufficient precautions are wanting to prevent larger sums than those authorised by the Act being insured for and paid on a child's death. The Committee add that many statistics have been submitted to them on the subject of infantile insurance, but they are not disposed to base any recommendations upon them one way or the other, owing to the difficulty of drawing therefrom a safe conclusion as to the general value of the system of assurance by companies and societies depending upon paid collectors. The Committee proceed to say that it must be regarded as a means, for which at present there is no effective substitute, of inducing very large numbers of the working classes to make some provision for burial, or for benefit to survivors at death, who would otherwise make none; and so far these societies and companies could not but be regarded, when well managed, as commendable institutions, always subject to the consideration that owing to the commission charged by collectors from 20 to 25 per cent., added to the ordinary cost of management—it oftens happens that nearly half the premium income never goes to the benefit fund. It had been shown that the cost of management of the industrial assurance companies has averaged 45½ per cent. in the ten years from 1877 to 1887. It followed, therefore, that for every shilling of benefit

assured for, the assurers have to pay nearly two-shillings. Among various recommendations as to the future management of industrial insurance companies and societies, to be embodied in the Act of Parliament, the Committee recommend that the Registrar of Friendly Societies chief office shall be constituted and termed "The Central Office," which shall have certain control over the management of the organisations; that it shall not hereafter be lawful to assure any child under ten years of age in more than one society or company; that it shall not be lawful for any society to which the proposed Bill shall apply to use the term "Friendly Society" unless prefixed by the word "collecting;" that no person under sixteen years of age shall become a member of a collecting society, and that all societies shall be registered. All companies shall be required to separate their industrial business from their ordinary business, and make annual returns in respect of such industrial assurance business. With regard to infantile and juvenile insurance, the Committee recommend that the age for the insurance of juveniles be raised from ten to sixteen. With reference to serious complaints as to the position and management of companies or societies, the Committee hold that when such a state of things as was disclosed by the valuation of a particular society in 1875—namely, a deficiency of £52,220—comes to his knowledge, it is the plain duty of the Chief Registrar, under Section 10, to publish information, either generally or in the particular districts. Looking to the importance attached in the public view to the fact that a society is registered, and to the confidence which is reposed on the action of the Chief Registrar, the Committee are of opinion that it is necessary that in future the provisions of Section 10 of the Friendly Societies Act, 1875, shall be more vigorously administered.

THE PHILOSOPHER'S STONE, OR WHAT?

The July number of the Provincial Medical Journal is out of print; it contained an article on Dr. Brown-Sequard's scientific experiments. Several correspondents have written asking for details. We may at once say that we regard all this kind of pseudo-scientific work as utterly out of the range of scientific medicine, and just as rational as it would be to eat a lion's heart to produce strength; though even that idea is not a new one, as at one time (let us say the Middle Ages, about which people know so little) the heart of animals was eaten in order to infuse courage. Old age will come; it is attended by certain symptoms, amongst which sexual impotence is only one characteristic. Its advent cannot be prevented, though it may be made more gentle by proper methods of living, by diet, hygiene, and the rest. We cannot give back youth; the fleeting years roll on, and then comes pale death, which knocks equally at the palace and the hovel, as Horace so beautifully tells us. But another higher authority has told us "that the age of a man is three score years and ten, and after that is sorrow and tribulation." How true an observer have we here; ask the septuagenarian, and he will answer, yes. Brown-Sequard, distinguished physiologist and professor at one of the French colleges, is now a septuagenarian, and the troubles of declining life have come upon him. He has tried to stave them off, succeeding, he tells us, by injecting into his body, sixteen times, a solution made from the testicles of animals. He has taken the testicles, pounded them into a pulp, adding a little water, so as to make a solution—as yet the price of these appendages of the male animal has not gone up. Brown-Sequard is anxious that ladies who have passed the meridian should be rejuvenesced by ovarian injections, and as a large number of women are ready for experiment, we await further developments. Contrary to our physiological teaching, Brown-Sequard has also preserved from decay a couple of patients, by teaching them masturbation, though not pushed to ejaculation, all of which is very wonderful and very scientific. But we live in an age of advance—even on these lines—and have to record many strange additions to medical knowledge. Phthisis has been treated by rectal injections of sulphuretted hydrogen. This plan had its votaries, and many instruments were sold, and many cases of cure reported by this ingenious and scientific method of killing the bacillus tuberculosis. The ingenious American who suggested the free use of beans made a good hit, and deservedly turned into ridicule this latest addition to science. We must leave Brown-Sequard to the mercies of time.

New Remedies.

Cocaine.—Dr. Squibb has lately pointed out a means of recognising the presence of isatropyl-cocaine in the cocaine of commerce, founded on a reaction first pointed out by Dr. Stockman, of Edinburgh University. When hydrochlorate of cocaine is heated with strong hydrochloric acid it splits up into its components without change of colour, but if isatropyl-cocaine is similarly treated it splits up into ecgonine, and a brown oily looking body, which is decomposed isatropic acid. This coloration also takes places when cocaine contains isatropyl-cocaine. As the latter is believed to be the constituent which sometimes gives rise to symptoms of poisoning, there is no reason why cocaine should not be obtained of such a degree of purity as to be used with confidence, especially since there is also a ready test known for detecting the presence of amorphous alkaloid—viz., in the acid reaction with litmus paper which the latter gives, and in the milky liquid which is formed when caustic ammonia is added to a solution of hydrochlorate of cocaine containing amorphous alkaloid.

Cola Nut.—Some carefully conducted experiments, made by Surgeon R. H. Firth, with the view of determining how far the claims made for these seeds are reliable, is published in the *Practitioner* for July. The author comes to the conclusion that cola is in no sense a food. Although it increases the total amount of urine, with a slight reduction of its total solids and a marked reduction of the extractives, it in no way affects the nitrogenous output of the body. It has a peculiar stimulant action on the nervous system, strengthening the heart-beat, and increasing the arterial tension. Taken continuously during times of exertion and fasting, it wards off to a certain extent the mental and physical depression peculiar to that condition. The infusion of the powdered seed with milk and sugar is an efficient substitute for tea and coffee, and superior to either for those affected with diarrhœa, owing to its astringent action. He considers that its alleged antagonistic action to alcoholic sequelæ is not proven. He finds that the cola nuts of commerce are not all genuine, some yielding no caffeine; and it is very necessary, therefore, to ascertain that neither the seeds of the bitter

cola (*Garcinia kola*), nor those of *Sterculia cordifolia*, neither of which contain caffein, are not present in any given sample. Chewing the nut continuously, and swallowing the saliva, he considers the best mode of using it during prolonged exertion.

Methacetin.—Some further information is now obtainable concerning this new antipyretic. It is related to antefebrin, which is acetanilide, phenacetin being oxyethyl-acetanilide, and methacetin oxymethyl-acetanilide. Its characters are given as follows. It crystallizes in shining white, odourless, and almost tasteless scales, melting at 127°C., and boiling undecomposed above that temperature. It is soluble in 526 parts of water, at 15° and in 12 parts at 100°, whilst phenacetin requires 2,500 parts of water at 15° and 86 parts at 100°, so that it is five times more soluble than phenacetin. It is freely soluble in alcohol and acetone, and in chloroform when warmed, but is soluble with difficulty in ether. It is also freely soluble in glycerine and fixed oils, especially when warmed, but less so in turpentine and essential oils. The aqueous solution is neutral, and is not altered by chloride of barium, silver solution, or ammonium sulphide. It should not leave any residue when heated on platinum foil. From phenacetin it is distinguished by its physical properties. If heated with insufficient water to dissolve it, it melts and solidifies again on cooling, but phenacetin heated with the same quantity of water does not melt.

Hydracetin.—The use of this chemical in psoriasis appears to require a certain amount of caution. The ointment recommended by Dr. Guttman for psoriasis contains ten per cent. of it; but Dr. Oestricher, who used a twenty per cent. lanolin ointment of it, found that, although he obtained good results so far as the action of the drug on the disease was concerned, yet, after using the ointment about seven times, severe symptoms of poisoning were produced, the patient complaining of increasing exhaustion and weakness of the limbs, and a feeling as if a serious illness were impending. The urine had a mahogany colour, with a greenish tinge.

Antipyrin.—Attention has recently been directed to the advisability of prescribing complex new remedies in as simple formulæ as possible, such as distilled water and a simple flavouring agent, on account of the inconvenience arising from the unexpected changes or decompositions that may take place. Thus it was found, by M. Ollivier, that antipyrin added to fluid extract of cinchona precipitates all the active principles together. The precipitate is, however, soluble readily in weak acid, and may therefore be soluble in the gastric juice. Again, it has been observed by M. Blainville that four parts of antipyrin with five of chloral hydrate and fifteen of water give an oleaginous (liquid at first milky) which is deposited from the water, and soon crystallizes, and then no longer possesses the taste of either, but has a flavour like that of coriander.

Naphthol-Camphor.—It has been found by M. Desesquelle that if 200 parts of camphor are heated with 100 parts of β-naphthol a liquid is formed, miscible with fixed and volatile oils, and with ether and alcohol, but insoluble in water. The application of the mixture of the two substances is not attended with pain, owing to the anæsthetic action of the camphor. The liquid is also capable of dissolving cocaine hydrochlorate and the cinchona alkaloids in considerable proportion, and ninety parts will dissolve ten of iodine. The mixture also, of naphthol and camphor, does not attack surgical instruments.

Rubidium Ammonium Bromide has been found by Professor Laufenauer to act in some cases more favourably than potassium bromide. He administered it to twenty-two patients, seventeen of whom were epileptic. The quantity given amounted on the average to six grains daily. In doses of four or five grains given in the evening it acted well as a sedative and hypnotic.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. KESTEVEN, M.D.

A Case of Glioma of the Retina. By Dr. Rolland, of Toulouse (*Le Progrès Médical*, July 20th, 1889).—Glioma, the only neoplasm that is developed in the retina, is also a rare affection. Dr. Rolland could only collect sixty instances in the literature of all countries that he could consult. It is met with only in children under twelve years of age, and principally in infants from two months to four years. Boys are the subject thereof more frequently than girls in the proportion of sixty per cent. It is fatal to all infants that it attacks. It is at first a purely local disease; gradually the cells encroach upon the choroid and the optic nerve and creep into the cranial cavity, and later still the gliomatous cells are found in the lymphatic glands, the liver, the kidneys, and the bones. The cure, without relapse, after many years, is possible where extirpation of the globe has been performed early. The fate of the patient depends upon early extirpation, while the disease is in its local stage. The diagnosis, is the more difficult in as much as the glioma, does not give any very marked indication of its advent. The patient may be in excellent health, and the first symptom will be (1) that peculiar reflection of the retina known as "Beer's amaurotic cat's eye; (2) the accidental discovery of monocular blindness; (3) inflammation of the outer structures; (4) strabismus; (5) dilatation of the pupil; (6) hemeralopia; (7) discolouration of the iris; (8) nystagmus. The examination by opthalmoscope will reveal a circumscribed tumefaction on the retina of a yellowish-white colour, furrowed by vessels very different from the normal retinal vessels.

On the 6th April, 1889, the patient was presented for consultation. The infant was of the male sex, emaciated and strumous. The right eye was seen to be double the size of its fellow; hard to the touch, and fixed in the orbit, causing protrusion of the lids; the cornea flat, dull, and semi-opaque at its centre. The iris seemed to be moulded on the concavity; the pupil was indistinguishable. The sclerotic was slate-coloured and tuberculated. The ophthalmoscopic examination of the left eye showed nothing abnormal. The parents enjoyed good health, and had four other children free from any defect of vision. The child's health up to that time had been good. On several occasions the retina had presented the peculiar glistening appearance, described by Beer as "cat's eye." The globe continued to enlarge, and the patient suffered so intensely that enucleation was indispensable, and four days after the operation the child was removed to its home. Dr. Rolland does not claim for the case a perfect cure, but immediate relief to intense suffering, and awaits anxiously the possible occurrence of the return of disease.

The Treatment of Tetanus by Pilocarpine (*L'Union Médicale*, July 6th, 1889).—Dr. Casate reports the successful treatment of three cases of tetanus by injection of hydrochlorate of pilocarpine, but does not state the dose used. In similar cases, however, recourse may be had with success to doses which might be fatal to men and animals in health.

The Multifarious Employment of Peroxide of Hydrogen (*Der Fortschritt*, Genf. June 20th, 1889).—This substance is a powerful bleaching agent, and as such is much used in arts and manufactures. As a disinfectant it possesses predominant properties. It destroys bacteria, like ozone, without exerting any poisonous effects upon the structure in which its influence is exerted, and is therefore employed for the disinfection of wounds, the atmosphere of sick chambers, and for general household cleaning. Peroxide of hydrogen is also serviceable as a preservation against fermentation.

Pathology and Cure of Snake Bite. By A. Mueller, M.D., Yackandanah, Victoria (*The Australasian Medical Gazette*, May, 1889).—A young man bitten by a "tiger snake" walked eight miles after the bite had been cut out; ammonia was then injected, but the poison had taken such effect that the case appeared hopeless. However, strychnine and cocaine were injected, and the patient kept walking about until he was out of danger. Fifteen minims of liq. strychninæ, and one grain of cocaine were injected. Strychnine dispels snake bite coma, besides restoring the power of voluntary muscular action, since its effects are not confined to the anterior columns, but extend over all the motor centres. Strychnine, the author affirms to be an unfailing antidote, while here is a strict correspondence between the quantity required and the amount of snake bite poison absorbed. Cases may occur in which the quantity required may amount to a poisonous dose; in cobra bite possibly a grain or more; whilst in Australia seldom above half a grain is required. In urgent cases one sixth, in milder cases one twelfth, of a grain may be injected every half hour with perfect safety. A glass or two of wine, or spirit and water will show by their exhilirating effects that all danger is past. [Statistical results of this treatment are desirable.—Rep.]

A new Orthopædic Operation. By Dr. Defontaine, Paris (*Annales d'Orthopédie*, July 1st, 1889).—Dr. Defontaine describes at considerable length the steps of an operation he has in two cases performed to fix at a right angle the foot in cases of infantile paralysis, of which the following is a short abstract:—In one of these cases, paralysis of the motor-muscles, dated more than ten years; the others upwards of two and a half years. The steps of the operations briefly related, are the opening of the tibio tarsal articulation on the external aspect by two perpendicular incisions, one anterio-posterior passing by the lower border

of the external malleolus to the posterior extremity of the meta-tarsus; the other passing vertically in front of the external malleolus, exposing the fibia-peroneal articulation. The astragaloid ligaments are divided, and if necessary the pereonal tendons also are divided. The articular surfaces were abraded by an osteotome. The arteries were tied with fine catgut, and the foot enveloped in salicylic wadding, and placed at a right angle.

On the Therapeutic Action of Senna Pods. By A. W. Macfarlane, M.D., Glasgow (*Lancet*, July 27th, 1889).—"The products of the senna plant, as imported into this country," Dr. Macfarlane points out, "consist of leaves, stalks, pods, and flowers, with certain other extraneous materials; these are sent to the great prisons to be picked, and the leaves are selected and returned to the druggists, while the other parts are rejected." The properties of the pods differ from those of the leaves. The infusion of the pods is free from taste and smell, "certainly it is devoid of the characteristic odour and flavour of senna." It appears to increase activity in the muscular movements of the whole alimentary canal, acting quite as much on the colon and rectum as on the small intestines. It is slower in its action than an infusion of the leaves, but equally certain; an ordinary dose produces without fail one motion, seldom more, of soft consistence, in from eight to ten hours, and without exciting any congestion of the pelvic vessels, or increasing or aggravating hæmorrhoidal or menstrual discharges. It is, in short, a reliable evacuant, free from irritating properties, such as cause griping and flatulence. The dose for an adult is from six to twelve pods; for the young and aged, from three to six; or liquid extract, dose ℥ss. to ℥j.; prepared by Rankin and Borland, Kilmarnock.

On the Treatment of Chorea by Prolonged Sleep. By Dr. Bastian (*Laneet*, July 13th, 1889).—This treatment, Dr. Bastian states, has been based upon a very definite principle. It is known that almost invariably the movements of chorea are arrested by sleep. "The disordered actions of the nervous centres upon which these movements depend are therefore also arrested. By greatly prolonging this period of rest we may accomplish two things: first, we may cut short the mischief which is almost inevitably being done to nerve centres, by the maintenance of this incessant and unnatural activity; and secondly, during such periods of prolonged rest we afford an opportunity for the gradual abatement of the functional perversion in certain parts of the nervous system (wherever situated) which has been the primary cause of the malady. Such a restoration of the normal equilibrium of functions, under the influence, as our forefathers would say, of the *vismedicatrix naturæ*, is the main object of this method of treatment." Dr. Bastian relates in full the details of a severe case of chorea treated upon this principle, and further states that he has treated, in the last twelve years, some eight or nine cases in this manner. "Some of the cases have been notably improved; other very chronic cases, however, have not derived much permanent benefit. In none of the cases has any evil resulted from the treatment." In the case related the patient was kept asleep (more or less) for three weeks, although two weeks had been the previous limit. Dr. Bastian gives an outline of the kind of cases for which he considers this treatment suitable—in ordinary cases of chorea he does not have recourse to it. The worst and most protracted cases can be treated on this principle only in the wards of a hospital, or under the care of special nurses in private practice. [For a more complete account of this mode of treatment, we would desire to refer our readers to the pages of the *Lancet*.]

The Treatment of Pulmonary Tuberculosis by Intra-Pulmonary Injections of Camphorated Naphthol. By M. Fernet (*Gazette Hebdomadaire des Sciences Medicale*, July 21st, 1889).—Dr. Fernet has injected the camphorated naphthol forty-one times in four patients in the second stage of disease, characterised by moist crepitation. In one case a small cavity was detected. Three injections were made once or twice a week with a Pravas' syringe furnished with a needle longer than usual. At each injection Dr. Fernet injected 0.15 centigramme of camphorated naphthol—0.05 centigramme of naphthol. These injections were made in the first or second intercostal space, equidistant between the border of the sternum and the edge of the axilla. In twenty-two out of the forty-one injections nothing untoward occurred; in several of the other cases a pain was experienced down the course of the nerves of the arm; in some a troublesome cough, produced, Dr. Fernet supposes, by the penetration of the vapour of camphor to the bronchial tubes. In a few instances slight hæmoptysis occurred. As far as the results are concerned in the four patients—three were notably improved; in the fourth the disease had made progress while in the hospital. In all. the expectoration was much diminished, and the crepitant râles had nearly disappeared.

The Treatment of Epilepsy by "points de feu répétées" on the Hairy Scalp (*L'Union Médicale*, July 6th, 1889).—M. Féré confirms this treatment, which, he states, he has employed the last two years. Two patients have been considerably relieved, if not cured, in that time. One of these experienced twenty-one fits in 1886, seven in 1887, only one in 1888, and none during the present year. The other had sixty-three attacks in 1886, forty-five in 1887, and five in 1888. [The details of the *modus operandi* are not given.]

Subcutaneous Mercurial Injections (*Gazette Hebdomadaire des Sciences Médicales*, June 30th).—M. Lesser dwells upon the disadvantages of these subcutaneous injections, especially of the insoluble preparations. With these a deposit of mercury may take place, which will afford a centre whence it may permeate the system, and give rise to severe mercurial poisoning. Fatal cases of kind were related at the Congress at Breslau. The indications for the injection of the soluble salts have reference to the urgency of the requirement of the medicine.

On the Importance of Gonococci in Diagnosis of Blenorrhagia (*Gazette Hebdomadaires des Sciences Médicales*, June 30th).—M. Neisser, of Breslau, submitted the following propositions at the Dermatological Congress at Prague:—1. The gonococcus is the morbid agent in the disease. It is always to be found in contagious blenorrhagia. It may be associated with other microbes, but the infectious character determines its specific nature. 2. The number of the gonococci will not always be in exact relation with the suppuration. This being a reaction of the mucous membrane against the gonococci, the reaction will be less in degree with second or third infection. 3. The presence of the gonococci is of importance for the establishment of the diagnosis, in a medico-legal, or hygienic point of view.

The Apostoli Treatment of Uterine Disease (*Centralblatt fur Gynäkologie*, 22nd June, 1889).—The principal point in this treatment is the use of the electric current obtained by the employment of a large external electrode, covering the greater part of the abdominal surface, so that the electricity is distributed extensively. An internal electrode ends in a platinum sound, and is introduced within the uterus. In some myomata this pole may consist of an acupuncture needle which may be passed into the tissues, to the depth of ½ to 1 c.m. The sound and needle are protected by antiseptics. The battery employed is Gaiffe's, with Leclanchè elements. This treatment it is urged is safe, simple, and easily carried out.

The Treatment of Hyperpyrexial Sunstroke by the Cold Bath. By H. F. Forbes, M.B., Brisbane (*The Australasian Medical Gazette*, May, 1889). — Dr. Forbes gives the notes of four cases of severe sunstroke with the treatment by cold bath. The pathology of this affection is now Dr. Forbes observes established to be pulmonary, and its characteristic symptoms due to paralysis of the brain centres by the overheated blood. "Hyperpyrexial sunstroke," Dr. Forbes remarks, "is simply a paralysis of the heat regulating mechanism with consequent paralysis of the vaso-motor and respiratory centres. If this paralysis is sudden, coma occurs at once; if gradual, three well-marked groups of symptoms appear in order, viz., restlessness with confusion of thought, delirium with epileptiform convulsions, and finally coma. These symptoms being due to high temperature, the principal of successful treatment must be the abstraction of heat and the rousing into action of the paralysed brain centres." This is to be accomplished by the ice bath, at 65° or lower, if ice is plentiful, at the same time that the patient is in the bath, ice-water is to be poured on his head, from a height of four or five feet. Relapses should be anticipated by the cold bath as soon as the patient becomes delirious, with a rising temperature. The result of this treatment in the hands of Dr. Forbes, has been encouraging. "To be successful, however, it must not be withheld on account of thready pulse, gasping respiration, and cold skin, but must be used quickly and boldly in face of such apparent contra indications. The cold bath instead of inducing greater collapse, acts as a very powerful and unique stimulant."

II.—SELECTIONS FROM FOREIGN MEDICAL JOURNALS.

By G. F. CADOGAN-MASTERMAN, M.D.

Glioma of the Retina. By Dr. E. Rolland, Toulouse (*Le Progrès Médical*).—Glioma, the only neoplasm capable of development in the retina, is, happily, a very rare disease. In searching through an extensive series of observations made by ophthalmic surgeons of all countries I have found but sixty cases recorded. They are enough, however, to establish the following propositions: Glioma of the retina is only seen amongst children under twelve years of age, and principally amongst those between two months and four years. Boys are attacked more frequently than girls, in the proportion of sixty-one per cent. The disease, if left to itself, is fatal in every case it invades, but at its commencement the mischief is purely local. The minute cells of the new growth gradually invade the choroid, the optic nerve, the whole

contents of the orbit, and then the brain itself. Later it may appear in the lymphatic glands, the liver, the kidneys, and the bones. A cure, after extirpation, has remained perfect for a period, in one of five and another of twenty years, without relapse, but the operation was performed very early. Should a relapse occur it is better to abstain from any further operative interference, as it would be wrong to operate at all if there be any indication that the disease has extended beyond the eye originally attacked. These considerations are full of interest not only to ophthalmic surgeons, but to every medical man engaged in general practice; to the latter, perhaps, most so, for it depends upon their acuteness of observation and diagnostic skill to detect the disease early enough for operation to be of any use; for it is not a mere question of impairment or loss of sight, but loss of the life of the little patient if the disease shall have been overlooked in the only stage when the surgeon can successfully intervene. And if the operation of enucleation be advised and accepted when the growth is purely local, it is the family medical attendant, not the oculist, who has the happiness of saving the patient's life.

But, it must be confessed, to recognize the disease in this early stage is very difficult, and its differentiation is more difficult still. The first *crux* is that it appears when the child is otherwise in perfect health. There is good appetite; natural, sound sleep; a clear complexion, and all the boisterous gaiety of untrammelled boyhood; and the eye is neither inflamed nor painful. But, then, we have a characteristic reflection from the fundus of the organ exactly resembling that which we all have noticed occasionally in the eye of the cat, and which was first pointed out, and called by Beer, "the amaurotic cat eye." The discovery that one of the apparently-healthy eyes is sightless. Later, surface inflammation, strabismus, unequal dilatation of the pupils, discoloration of the iris, nystagmus, hemeralopia. The first is pathognomonic; the others are of value only because they may and ought to lead to the ophthalmoscopic examination of the eyes. When this is done a circumscribed projection of the retina is seen, of a yellowish white, or brilliantly white, crossed by numerous tortuous vessels, having a very different arrangement to the normal retinal arteries and veins. Its surface is usually uneven, not as if bounded by some covering membrane, but irregularly embossed. Some of the vessels are seen to be running on its surface, others penetrating it at various depths.

It must not be imagined, however, that the diagnosis is even approximately certain. M. Poncet (of Cluny) says that he has examined at least half a dozen eyes which have been sent to him as examples of glioma, and found them—when too late—quite free from the disease. An irido-choröitis, with detachment of the retina, having given rise to the mistake; and Critchett and Bowman report (*Lancet*, May, 1854,) a case in which an enucleated eye was found to have the yellow tint due to an inflammatory exudation at the back of the crystalline lens; and M. Vassaux, an oculist of Amiens, extirpated the eye of a child two months old, which was mydriatic, with a dull yellow tint in the pupil and synechiatic, and in which the ophthalmoscope seemed to shew a fixed tumour, with a wrinkled surface covered with dilated vessels, which he pronounced to be "glioma," but which turned out to be a fibro-plastic growth from a terminal loop of the hyaloid artery covered with a delicate epithelial envelope. Desmares removed another eye in which a partial detachment of the retina led to the same error. But, after all, these mistakes as far as the patient is concerned, are not to be regretted; in each there would have been partial loss of sight, and an artificial eye is far preferable to a globe rendered opaque by disease. It is much better that the mistake in diagnosis should have been made than that the operation should not have been performed, for an eye with a detached retina is so extremely apt to set up sympathetic inflammation in the other, with the result of complete blindness, that the error is a fortunate one; and, in face of the fact that an unremoved glioma is *always* fatal, it is well to keep in mind that the autopsy of even a healthy eye is preferable to the *post-mortem* of a cancerous patient.

On the 6th April, 1889, a little boy, three years and a half old, was brought to me in the most piteous state imaginable—wasted, strumous, his face distorted with suffering and incessantly crying, screaming with pain. "Ah! Monsieur," said his mother as she vainly tried to silence him, "if you cannot save my child, at least spare him this martyrdom and me the agony of witnessing it!" On removing the bandage the right eye was seen to be swollen to double its proper size, hard, immovable, and almost bursting through the œdematous eyelids. The cornea was flat and opaque, no pupil to be seen, and, of course, any examination of the interior of the eye impossible. It was clearly a case of malignant disease, and the microscope showed it subsequently to be an unusually large-celled glioma.

The history of the case is: that on the 2nd of January, 1887, several persons noticed in the evening the extraordinary brilliancy of the child's right eye; the next morning, however, in full daylight nothing of the kind was to be seen, it was only at night when the lamp was burning that this singular brightness was visible—due, of course, to the then dilated pupil. Four months afterwards the child, still enjoying apparently the most perfect health, was sitting one evening under the table with the cat beside him, and the mother remarked with some emotion, that the eye and those of the animal had the same uncanny appearance. This went on for twelve months without any medical opinion being taken. In May, 1888, it was evident that the eye had increased in volume, that the pupil was always dilated and had become cloudy; but the child was as well as ever. By the middle of August, however, the increased size of the eye alarmed the parents, and they consulted a local medical man who assured them that the sight of the eye was lost, but does not seem to have realised the gravity of the case. Shortly afterwards pain commenced, and the poor child was always wailing, "*Maman, maman, l'œil me fait trop de mal, je ne puis plus y tenir.*" Still nothing was done, and in February, 1889, the swelling gradually subsided, and the parents were urged by the usual village wiseacre *not* to trust the child to a surgeon for he would be sure to want to take the eye out! By the next May, the sufferer had completely broken down; his cries were continuous, he could not sleep, appetite failed, and he had wasted to skin and bones, and at last, when the parents were convinced that nothing could save him, the oculist was asked to do it! Enucleation was performed the next day under chloroform, care being taken to divide the optic nerve as far back as possible, and to clear out the whole contents of the orbit to the periosteum. There was free hæmorrhage, checked by stuffing the cavity with strips of lint soaked in a cold solution of boracic acid. The operation was finished at 10 a.m., and at 5 p.m., when, seen again, all was going on well, all oozing of blood had ceased, and the child, to the great delight of his parents, had asked for some soup and had eagerly taken it. He slept well all night, and convalescence was rapid and uninterrupted. The disease may return, but the child is for the present, at least, relieved from all pain and discomfort.

A word as to the time for introducing an artificial eye: as a rule, I direct one to be fitted eight days after the operation; but in this case, where it is so important to avoid any and the slightest form of irritation, I have directed the parents to wait for at least a year.

III.—NOTES FROM FRENCH JOURNALS.

By H. R. HATHERLY, M.R.C.S.

Hypnotism (*Gazette Hebdomadaire des Sciences Medicales de Bordeaux*).—M. Tillaux has operated on a patient for cystocele during hypnotic sleep. The patient, who was a hysterical subject, entered the operating theatre during her sleep, and felt nothing of the operation. It was suggested to her immediately after the operation that she should pass a good day, and she suffered no pain. Unfortunately it was not suggested that there should be no bleeding, and this complication had to be remedied by tampons. This degree of insensibility cannot be induced in all hypnotic subjects.

Instructions to Prevent Tuberculosis (*Ibid*).—M. Villemin has prepared a series of instructions for public use to prevent tuberculosis, which disease, he asserts, is parasitic, virulent, contagious, and transmissible by a microbe. It is the recognition of its contagious character which must guide the public in the precautions to be taken against this disease, which may penetrate the organism in a variety of ways. There is a condition of the general health which predisposes to infection, and some persons are peculiarly susceptible. Either milk or uncooked meat may convey the pathogenic germ to the digestive canal. M. Villemin intends to submit to the academy for discussion the following instructions:—(1) Expectoration by phthisical people, being the most formidable agent in the transmission of tuberculosis, there is public danger in spitting on the ground, on carpets, coverings, curtains, napkins, handkerchiefs, and sheets. (2) The use of spittoons should be enforced everywhere and on everybody. Spittoons should always be emptied into a fire, and cleansed with boiling water; they should never be emptied on dunghills or in gardens where they may convey tuberculosis to fowls. They should not be emptied in closets. (3) No one should sleep with a tuberculous patient, and the room should be inhabited as little as possible; young children especially should not sleep in the room. (4) The places inhabited by phthisical people or by those considered to be predisposed to contract tuberculosis should be separate; also for patients born of phthisical parents, or who have had measles, small-pox, pneumonia, repeated attacks of bronchitis, or attacks of diabetes. (5) Objects which may have become contaminated by a phthisical patient (linen, clothes, furniture, play toys, etc.) should only be used after disinfection by stoving or other means. (6) It should be compulsory that rooms in hotels, furnished apartments, chalets, or villas in watering places, or winter stations, should be furnished in such a manner that disinfection can be readily and effectively carried out

after the departure of each patient. It would be best for the chambers to be without curtains or bed-hangings, to be lime-washed, and that the floor should be covered with linoleum. The public is chiefly interested in preferring those hotels where hygienic precautions are taken, and means of disinfection are provided.

Tinea Favosa in a Child Six Weeks Old (*Journal de Medicine de Paris*).—M. Augier records a case of this disease which is rarely met with in the early months of infancy. In the case in question the crusts of favus were not on the hairy scalp but on the temporal region, where there was, all the same, a fairly distinct down. Schœnlein's Achorion was discovered by microscopical examination. Looking at the case from an etiological point of view, the infant had a sister whose scalp was covered with favus, and as this child was in the habit of taking care of the baby, and holding it in her arms, there can be little doubt about the source of contagion.

Treatment of Mental Diseases by Hyoscine (*Journal de Medicine de Paris*).—At a meeting of the Society of Biology Dr. Magnan claims that hyoscine produces remarkable effects in acute mania. A few minutes after the subcutaneous injection of hyoscine all the morbid symptoms diminish. At first the patient experiences a faintness and some disorder of accommodation, with dilatation of the pupils, followed shortly by drowsiness and quietude lasting from five to ten hours. Once only he noticed an unfavourable symptom: it was in the case of a phthisical maniac, who, after injection of hyoscine, had a marked tendency to syncope, which, however, was of short duration. Hyoscine has been employed by Dr. Magnan in other forms of mental disease, but the cases are too few to permit any generalisation. In one case, a young hysterical patient, who had profuse localised sweatings of the hands, was relieved for many hours after the subcutaneous injection of a half-milligramme of hyoscine. No remedy for mania has proved so serviceable in the hands of Dr. Magnan as hyoscine.

Sulpholeinic Acid as a Solvent in Pharmacy (*Journal de Medicine de Paris*).—This acid, sometimes called the universal solvent, and obtained by the action of sulphuric acid on vegetable oils (the chemical process is very complicated), which is rendered neutral by repeated washings in a solution of chloride of sodium and ether. When concentrated it forms a yellow liquid, oily, viscid, of neutral reaction, having at first a sweet taste which becomes shortly bitter and astringent; its specific gravity is 1.023. It is soluble in all proportions of alcohol, and mixes with one or two parts of water without losing its oily character. Dissolved in a large quantity of water it forms a clear liquid, slightly opalescent, frothy, and remarkable for its great affinity for water, even when boiled for some time. At a temperature below freezing point it forms a yellow mass resembling vaseline. It combines with a variety of substances, which then become completely soluble in water, or else form emulsions with it; for instance: ether, chloroform, turpentine, bisulphide of carbon, oil of mustard, and other essential oils. Warmed or boiled it dissolves a great number of organic and inorganic substances such as sulphur (two per cent.), iodoform (three per cent.), camphor (twenty-five per cent.), naphthalin, chrysophanic acid, several colouring agents, etc. These solutions penetrate the skin rapidly and energetically, and are speedily and completely absorbed by it. It may be seen, therefore, that sulpholeinic acid possesses many important advantages; it is superior to vaseline, oleic acid, glycerine, and other vehicles for remedies prescribed for external use.

Black Tongue (*Annales des Maladies du Larynx*).—Black tongue is an indolent affection situated at the back part of the tongue. It often passes unnoticed, or it is first perceived by the patient accidentally. It is caused by the production of long papillary filaments, having a uniform colour varying from a light to a black brown. These filaments are due to hypertrophy of the normal papillæ, recovered by dry and hard epithelial cells, and surrounded by abundant spores. Is it a trophic disorder, is it due to the irritation produced on the papillæ by a fungus? These questions have yet to be solved. That which is known is, that black tongue frequently makes its appearence in the course of diabetes. The treatment consists in scraping the part affected, and the application of strongly alkaline solutions, which do not, however, prevent relapses.

Poisoning by Bismuth (*Gazette Hebdomadaire des Sciences Médicales*).—Experiments recently made with bismuth establish the fact that it possesses poisonous properties. Subcutaneous injections of the citrate of bismuth and ammonia are often toxic. Stomatitis often follows the injection of a centigramme of bismuth in a cubic centimetre of water. Amongst other symptoms of poisoning by bismuth, M. Balzer points out, diarrhœa, hœmatemesis, intestinal hæmorrhage, and dyspnœa, perhaps, in relation to blood changes. A dog suffered from a well-marked double opacity of cornea, similar to that which has been observed in poisoning by chloride of ethyl, evidently due in this case to deep seated lesions in the anterior chamber.

The Quality of Chloroform (*Ibid*).—Dr. Regnier is of opinion that it is not only difficult to procure good chloroform, but that it is still more difficult to preserve it. He has studied the question of chloroform anæsthesia with great care, and his conclusions are that chloroform should always be rectified the day before it is wanted. Deaths from chloroform in man and in animals are due to the use of an impure anæsthetic. It is not very convenient to rectify chloroform every time that it is required for an operation, and it is not every pharmaceutical chemist who is in a position to do it. Dr. Polaillon proposes the employment of a mixture of chloroform and alcohol suggested by Regnault, as, according to this chemist, the mixture insures the unalterability of the chloroform; at the same time it must be acknowledged that this mixture has not proved successful in the hands of some surgeons.

Injurious Effects of Listening to the Telephone (*L'Union Médicale*).—Dr. Gellé has observed in several persons ear troubles, which he attributes to abrupt and noisy sounds conveyed by the telephone, from the ears being too close, or from the degree of attention required by this particular mode of conveyance of sonorous impressions. Perhaps there may be a certain nervous predisposition in some cases, or some secondary pathological condition may pre-exist in the organ. In one case a man of great ability, whose occupation demands considerable intellectual effort, and also very frequent telephonic communication, suffered from a condition of nervous excitement and hyperæsthesia of the hearing apparatus; his condition was such that sound caused vertigo and bourdonnement, and he was liable to disquieting sensations of giddiness. In another case a young girl, who was employed for telephonic correspondence in a large establishment, was attacked with deafness and noises in the ears, also hyperæsthesia of the hearing apparatus. In both these cases the disorders ceased after the use of the telephone was discontinued. In some cases pain, deafness, tinnitus, and neuralgia, accompanied inflammatory conditions of the tympanum, which were probably due to the same cause.

Treatment of Erysipelas by Picric Acid (*Journal de Medicine de Paris*).—M. Calvelli recommends a very simple treatment of erysipelas. He mops the part affected five or six times a day, with a solution of picric acid in water (1.5 in 250). In addition he makes use of hypodermic injections of quinine, and he states that there is a diminution of inflammatory swelling, and of pain within from twelve to twenty-four hours. A passive œdema replaces the inflammatory swelling in very severe attacks, or in migratory forms. According to Calvelli the picric acid acts as a protective varnish, and modifies the peripheric circulation by exciting vaso-constriction.

Chronicles of Hydrophobia (*Journal de Medicine de Paris*).—The disciples of M. Pasteur continue to alarm the populace. If they are to be believed, every person who has been licked by a dog which is suspected, is liable to die of hydrophobia if he does not immediately apply to the Pasteur Institute, and at all cost help to swell the number of persons treated. Thus it is pretended that Mr. L——, who died of a nervous affection on the 17th of May, died of hydrophobia, *because he had been licked by a dog*. The same dog bit a child who was sent to the Pasteur Institute, and who is at present in good health. We reply to M. Pasteur's disciples:—

1. L—— did not die of hydrophobia, but of an ill-defined nervous affection which did not present a single characteristic of hydrophobia. This is the deliberate opinion of the doctor who treated the case.

2. The child which you pretend to have cured, and which was bitten in May, has not yet reached the limit of the period of incubation, and consequently it is not certain that it is yet protected.

3. It is understood how important it is for the antirabic Pasteurian therapeutics to establish a parallel between these two cases; one cared for at the Institute is well, the other not so cared for died. But it is proved by numerous witnesses, and especially by the doctor who treated the case, that L——, who had possibly been licked by a suspected dog, did not suffer from hydrophobia, and did not die of that disease.

Coronilla in Heart Disease (*Ibid*).—Cardot and Spillman have tried the effects of coronilla in heart disease; it acts more particularly on the cardiac muscle of which the contractility is increased. Dr. Spillmann has exhibited it principally during the asystolic stage of heart disease, and out of seventeen patients treated, in eight the remedy proved efficacious; in two there was slight improvement, and in seven cases no benefit was derived. The diuretic action of the drug was frequently shown, the quantity of urine passed being increased from 200 centimetres to four and even eight pints. Coronilla acts feebly on the frequency and rhythm of the pulsations, but it causes an increase in the volume of the pulse, an increased diuresis diminution of œdema, and relief of dyspnœa. The drug was administerd for three or four days in succession, and produced its therapeutic effects in from twenty-four to thirty-six hours after the first dose, but twenty-four hours after the last dose the patient relapsed into the same condition as before the administration of the remedy.

IV.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By VALERIUS IDELSON, M.D., BERNE.

On the Gastric Digestion in Pulmonary Phthisis and Emphysema.—In the Polish weekly *Gazeta Lekarska*, No. 20, 1889, p. 44, Dr. Adam Chelmonski (pron. Khelmonskee), house physician to Professor J. J. Stolnikoff's clinic, in Warsaw, published an able paper on the influence produced by chronic pulmonary disease on the gastric juice, and motor and absorptive powers of the stomach. In all, twenty-six patients were examined, of whom eleven were suffering from chronic pulmonary consumption, and fifteen from emphysema. The essential outcome of the author's researches may be given as follows :—

1. In cases of chronic phthisis with an apyretic course, very often, though not always (in eight out of eleven cases), no free hydrochloric acid can be detected in the patient's gastric juice, while the proportion of pepsine proves to be exceedingly small. The gastric motor power (tested by Leube's mechanical method) is frequently weakened, the gastric absorption invariably retarded to a considerable extent. [Iodine could be detected in the patient's saliva only twenty to twenty-five minutes after the internal administration of iodide of potassium on an empty stomach.]

2. Such failure of the gastric functions is dependant partly upon general anæmia and exhaustion, partly upon chronic fibroid endarteritis [which, according to Dr. N. S. Ippa's researches, represents a constant morbid change in phthisis, *vide* his *St. Petersburg Inaugural Dissertation*, 1889]; partly upon venous congestion of the stomach, and, contrary to Edinger's and Rosenthal's assertions, only in exceptional cases may be attributed to amyloid degeneration of the arteries of the gastric mucous membrane. [The corollaries are supported by the following facts derived from the registers of the Warsaw clinics for 1882-85 : Out of 162 necropsies in cases of phthisis, amyloid degeneration was found only in eight cases, the organs affected being kidneys (eight), spleen (six), and liver (two). Out of eighty-six cases, in forty-four the gastric mucous membrane was found anæmic, in thirty-two affected with chronic catarrh, in three with acute, in three gastric cancer was present, and in two ulcer.]

3. In emphysema, during attacks of asthma with bronchitis and œdema of the lung, the gastric juice invariably shows a total absence of a free hydrochloric acid, and a very considerable decrease in the proportion of pepsine. During free intervals, however, the juice seems to return to its normal condition.

4. The changes seem to depend upon venous congestion of the gastric mucous membrane, leading to catarrh. A certain causal significance may be also attributed to a weakened state of the diaphragm. [Out of thirty-six necropsies in cases emphysema, in twenty-one chronic catarrh of the stomach, in eleven anæmia, and in six cancer, were found. The liver proved to be in a "nutmeg" condition (*Hepar moschatum*) in thirty-one cases, fatty in two, cirrhotic in three, anæmic in two.]

Nephrectomy for Malignant Tumours of the Kidney.—Dr. Albert Siegrist, of Zurich, has collected (*Zurich Inaugural Dissertation*, 1889) from international literature sixty-four cases of malignant disease of the kidney, in sixty-one of which total nephrectomy, and in three only exploratory nephrotomy (in children) was performed. In 54 per cent. of the cases sarcoma, and in 46 per cent. cancer, was found. In 52.5 per cent. the extirpation was followed more or less immediately by death. Other 15 per cent. of the patients died from recidive or metastases within eighteen months after the operation. A patient, operated upon by Professor Kroenlein, of Zurich, four years ago, was still enjoying best health at the time of the communication. Four patients were found in perfect health when examined two years after nephrectomy, two twelve months after the operation, three six months, and one five months. In the remaining surviving cases, no information could be obtained beyond several weeks after the extirpation.

The intra-peritoneal method seems to be attended with greater danger than the extra-peritoneal one, the mortality amounting to 58 per cent. in the former case, against only 24 per cent. in the latter. Local recidives, however, are by far more frequent after extra-peritoneal nephrectomy (71 per cent.) than after intra-peritoneal (5 per cent.)

Progressive General Paralysis in Women.—At a recent meeting of the Medicinische Gesellschaft in Basel, Dr. Greppin has read notes (*Correspondenz-Blatt fuer Schweizer Aerzte*, August 1st, 1889, p. 466) on twenty-six female cases of progressive general paralysis, admitted to the Basle psychiatric clinic (the proportion of female cases of the disease to male in the clinic being 1 to 2.41). As regards the etiology, the first place was occupied by mental or physic overstrain, the second by climacteric changes. Heredity was elicited in fourteen patients, a syphilitic history in four. Sixteen patients belonged to working (indigent) classes, ten to well-to-do ones. As to the clinical forms of the affection, in twelve cases simple primary progressive dementia was diagnosed, in ten a maniacal variety, in three a mixed melancholic and hypochondric one, and in one hallucinatory paranoia. Fourteen patients died when in the clinic; seven were discharged, of them three in an improved state, but four without any amelioration. The remaining five are still under observation. The necropsy revealed the same morbid changes as are usually met with in male cases of general palsy. The microscopical examination invariably detected extensive proliferation of the cerebral neuroglia, degenerative lesions of ganglionic cells and blood vessels, and a marked wasting of myeline nerve fibres. The atrophy was most pronounced in the superficial layers of the cortical areas lying in front of the central gyri.

Dr. Greppin insists on a paramount importance of a possibly early recognition of prodromal symptoms of progressive paralysis, since when resorted to sufficiently early, an adequate treatment may often lead to gratifying results.

Antipyrine as a Uterine Anodyne.—Following Dr. F. Sielski's recommendations (*vide* the *Provincial Medical Journal*, February, 1889, p. 116,) Dr. J. Stepanoff, of Tomsk, West Siberia, has tried (*Meditzinskoïe Obozreniïe*, No. 12, 1889, p. 1159,) antipyrin (internally in one gramme doses) in two cases of uterine pain, and obtained excellent results. One of the cases refers to the author's wife, an exceedingly nervous and sensitive lady of thirty, in whom, on account of hyperemesis gravidarum abortion was induced in the third month of her fourth pregnancy. The fœtal membranes being retained in the uterine cavity, the uterine action became most violent and painful. Chloroform inhalations were kept up for four hours, but failed to bring about a permanent cessation of the patient's sufferings. It was then that the author resorted to antipyrin. In a quarter of an hour after the first dose, the pain subsided to cease altogether in an hour. Simultaneously all uterine bleeding (which had been almost incessant before) disappeared. Some pain recurring on the next day, another two doses, with the interval of four hours, were given, after which it ceased permanently.

Another case is that of a lady, aged twenty-eight, suffering from agonising dysmenorrhœa of several years' standing. Three doses of antipyrin, taken during the first day, caused a striking relief of the pain, lasting during the whole catomenial period. The patient who, on previous occasions, had been invariably lying in bed during the periods, could this time remain on her legs all through, and generally felt "happy," owing to the "marvellous powders."

Brachial Neuralgia caused by Pulpitis of Wisdom Teeth.—In the St. Petersburg odontological monthly, *Zübovratchebnyi Vestnik*, No. 2, 1889, p. 87, Dr. P. Tikhomiroff, of Tver, states that he repeatedly met with cases of severe brachial neuralgia following acute inflammation of the pulp of the lower wisdom teeth. He relates a case of a robust middle aged gentleman, with deep caries of the right lower wisdom tooth, in whom, during an attack of toothache, there suddenly supervened an excruciating pain over the corresponding side of the neck, shoulder, and along the whole upper limb. A considerable impairment of motor power of the extremity was also present. Suppurative pulpitis of the said back tooth was found. The extraction of the offender was followed by a rapid and complete disappearance of the neuralgia. The author adduces another case with identical particulars, the patient being a very anæmic young lady.

The Spirit of the Societies.

BRITISH MEDICAL ASSOCIATION.

LEEDS MEETING, AUGUST 13th to 17th, 1889.

[FROM OUR SPECIAL CORRESPONDENT.]

THE fifty-seventh annual meeting of the British Medical Association may be pronounced an unqualified success, both as regards the numbers who attended, excellence of papers, and arrangements made for the comfort and pleasure of the visitors. Great credit is due to the profession in Leeds, and to the citizens, for the hospitality they displayed. It sustains the Yorkshire reputation. Leeds is situated within easy distance of lovely scenery, so that one could escape in a few minutes from all that unloveliness which is really the source of the prosperity of Leeds—her manufactures, which are famous all over the world, and by which thousands are supported. The time will come when we shall have smokeless fuel, and then Leeds will be a changed city. Those who went to the garden parties, "at homes," balls, etc., were quite satisfied with Leeds as she was. The ticket salon on Tuesday presented a very animated appearance. As members arrived, they immediately sought the reception room, and here it was pleasant to see the greetings

between old friends who had not seen each other for years; so that if the Association had no other *raison d'être* it would find one in the bringing together annually of a number of old college friends, in the social intercourse which frequently ends in the establishment of new ones. The proceedings on the opening day were of an essentially business character. We are informed that the Council tendered an apology to Mr. Edward Owen for the editorial comment which appeared in the *British Medical Journal*, and which certainly reflected upon his honour. At the first general meeting the various reports from committees were passed with unanimity. The Bishop of Ripon preached an admirable sermon on "The Relations of Science and Religion," and as if to give a lie to the statements which are made that medical men, as a rule, are irreligious, there was a large attendance at the Parish Church. There was a goodly gathering in the evening at the Coliseum to hear the presidential address (abstract published at page 521). The resolutions passed on Tuesday were as follows:

1. On the motion of Mr. Rivington, seconded by Dr. Danford Thomas, the following resolution was unanimously adopted: "That it is the opinion of this meeting that the members of the Royal College of Surgeons of England should have a voice in the management of that College, and in the election of its Council, and that it be an instruction to the Council of this Association to further this object through the action of the Parliamentary Bills Committee, or of a special committee to be appointed for the purpose at this annual meeting." Dr. Ward Cousins hit the nail on the head when he said "that it might be right enough in the middle ages, but in the nineteenth century to exclude 12,000 members from any particle of power in their own College was monstrous."

2. In reply to a letter signed by Sir Joseph Lister as chairman, and Drs. W. H. Allchin, W. A. Meredith, John Williams, as secretaries, reflecting on the conduct of the *Journal*, the following resolution was passed with one dissentient: "Resolved that the Council do not admit that the signatories of this letter are better judges than themselves, or more solicitous than they are for the honour of the Association and of the profession; but if there are any points which the signatories desire to particularise, in which they consider that the *Journal* admits of or calls for improvement, they will—as they ever have been on receiving them through the representatives of their branches in the Council—be ready to give such suggestions their most careful consideration."

3. Resolutions of Mr. Brindley James and Dr. Rentoul were withdrawn, and the following substituted: "That the resolutions be referred to the Council of the Association; that the Council invite the branches and individual practitioners to forward suggestions to them; and that the Council furnish their report to the *Journal* within six months of the present date, and refer their conclusions to a general meeting."

4. The question of the payment of the travelling expenses of the representatives of the branches appears to come up perpetually at the meetings. What a change must have come over the members when they actually passed a resolution that travelling expenses in future should be paid out of the funds of the Association! The resolution was proposed by Dr. Ogilvie Grant, supported by Mr. Vincent Jackson, Mr. Brindley James, Mr. Lawson Tait, Dr. Jacob, Dr. Douglas, and Dr. Brierley. The opposition was very slight, and the motion was carried with a few dissentients.

The above resolutions indicate a change in the lines on which the Association has hitherto run. It indicates on the part of the Council a desire to act in accordance with the views of the majority, and to consider the general interests of the members. The Council is wise in moving in harmony with the spirit of modern times. The cliquery which at one time distinguished the Council no longer exists. This is due to the representative principle which now exists. The local journals published excellent accounts of the transactions from day to day, and I am indebted to the *Leeds Mercury* and *Yorkshire Post* for some of the matter which I send. The full reports published by these journals have, I think, a beneficial influence, and should tend to impress the public with the earnest way in which, in all branches of medicine, we are striving to advance.

SECOND GENERAL MEETING, AUGUST 14TH, 1889.

The second general meeting was held in the Coliseum in the afternoon, under the chairmanship of Mr. C. G. Wheelhouse (president), and was largely attended.

At the outset Dr. Bridgwater stated that the Council had not yet received any definite invitation for the meeting in 1890. Under the circumstances he had to move—"That it be recommended to the general meeting that the Council be empowered for the place of meeting in 1890, and for appointing of a President-elect.

Dr. Bristowe (St. Thomas' Hospital, London), seconded the proposition, which was adopted.

Dr. J. Hughlings Jackson, F.R.C.P., F.R.S. (Physician to the London Hospital, and to the National Hospital for the Epileptic and Paralysed), gave the address on "The Comparative Study of Diseases of the Nervous System." He said he did not advocate the application of the doctrine of evolution to the classification of diseases for practical purposes, but believed, nevertheless, that its indirect value to clinical medicine was very great indeed, and that before long it would be directly helpful. Thinking that for clinical purposes they must continue to have arrangements of cases "by type," he once more urged that they should also attempt a parallel study of diseases as they were dissolutions—that is, reversals of evolution. He would give a series of illustrations of his method, because it was one he followed largely in his address. A patient of his had lost one hand, but as was most often the case, he had representing it a phantom hand; this was always in position as if encircling a vessel; the member had been blown off when he was holding a cylinder to be charged with an explosive. An aphasic patient frequently uttered on being questioned, but with no relevance to anything going on, "Come on" or "Come on to me"; he was a signalman, and had been taken aphasic and hemiplegic on the railway in front of his box; the presumption was that he was saying, or was about to say, those words when taken ill. An epileptic patient told him that his first fit occurred when he was a soldier, and at the very time he was "numbering off"; after every subsequent fit, and before regaining consciousness, he used to count. A woman he was asked to see in a surgical ward in the London Hospital, who had fractured her skull by a fall when laying down oilcloth on a staircase, kept, during partial unconsciousness a few hours before death, manipulating the counterpane of her bed. They supposed that to be a sort of continuance of the action of laying down the oilcloth; the patient desisted for a time at least, when the nurse assured her that "it was properly laid." These illustrations would appear incoherently grouped to those who do not happen to see that the intention in stating them was not to deal with aphasia, epilepsy, and injury to the head, but to make a basis for the discovery of the reason why there was a fixation of states, which were normally temporary, upon the sudden occurrence of lesions of the nervous system. Very different cases were chosen in order to make the basis a broad one. This was by way of illustration, but he hoped that such facts were of some value towards the methodical study of persisting delusions. He suggested, quite hypothetically, that some very grotesque delusions might be a fixation of absurd beliefs in dreams, in cases where a sudden morbid change, or sudden increase of it, had occurred in the brain during sleep—such delusions as one mentioned to him by Dr. Savage. A patient of his believed himself to be a jar of Indian pickles. In the doctrine of evolution they had principles which no doubt applied to the whole organism, and to every one of its diseases; it was at once a means of scientific classification, and a guide to the discovery of new facts. The full symptomatology of a case of ocular paralysis was not to be intelligently stated even, unless activities of healthy centres, including the highest, were considered; and a case of insanity was not properly analysed unless undiseased parts of the highest centres and all lower centres were considered. In the two cases a great part of the symptomatology was owing to over activity of perfectly healthy nervous arrangements; the erroneous projection and diplopia in the first, and the illusions, delusions, and all other positive mental symptoms in the second. To insist on the principle implied, he said in recapitulation that every case of nervous disease was a problem, not only in dissolution but in evolution; in example, he who was studying the physical process during an illusion in an insane patient was as certainly dealing with evolution as he was studying that process during the perception of a healthy person. Before giving particular illustrations of dissolution he made brief statements concerning some different aspects of the one process evolution, of which dissolution was the reversal: (1) Evolution was a passage from the most to the least organised. "Highly organised" was frequently used synonymously with "vero complex;" but by degrees of organisation he meant degrees of perfection of union and certainty of action of nervous elements with one another. Using the term organised in that sense, he said that the highest cerebral centres were the least organised (the most helpless centres") although they were the most complex, whereas the lower centres were the most organised, although the least complex. In other words, they might say (2) that the evolutionary ascent was from the least to the most modifiable. If the highest centres were not modifiable, we should be very simple machines; we should make no new acquirements. If the lowest ("vital") centres were to become as modifiable as the highest, life would cease. It was only another aspect of this statement—that the progress in evolution is from the most to the least organised—to say (3) that the passage was from the most automatic to the most voluntary (properly, "to the least automatic"); equivalently it was (4) from structures inherited most nearly perfected (acquirements of the race and of prehuman beings), such as the cardiac centres in the

medulla oblongata (some centres of the lowest level of evolution)—from those comparatively perfectly evolved at birth—to those of the highest nervous arrangements of the highest centres, which were only incipient nervous structures, and which were evolving during the latest new mental states; (5) the process of evolution was from the simple to the complex; (6) from the general to the special. Reversals of evolution were effected by pathological processes, and were called dissolutions; they were reductions from the least organised, etc., towards the most organised, etc. Some, presumably all, cases of insanity illustrated dissolution. In Dr. Savage's important work, "Insanity," where he dealt with general paralysis, he wrote: "That the disease affects first the highest intellectual and motor acquirements is undoubted." He said, too, "Both Dr. Maudsley and I have independently taught that in this progressive degeneration the last and highest acquirements fail first." They had very good illustrations of dissolution in the symptomatology of drunkenness. Long ago Charles Bell wrote: "It is a fact familiar to pathologists that, where debility arises from affection of the brain, the influence is greatest on those muscles which are, in their natural condition, most under the command of the will. We may perceive this in the progressive stages of debility of the drunkard, when successively the muscles of the tongue, the eyes, the face, the limbs, become unmanageable; and under the same circumstances, the muscles, which have a double office, as those of the chest, lose their voluntary motions and retain their involuntary motions; the force of the arms is gone long before the action of breathing is effected." Lauder Brunton in his "Pharmacology" wrote: "In the action of such poisons as alcohol, the nervous system appears to be paralysed in inverse order of its development; the highest centres going first, next the middle, and then the lowest. After this comes paralysis of the motor nerves, and, lastly, of the muscles themselves." Dissolution was exemplified in each of the following exceedingly different symptoms: 1. Most epileptiform seizures began in the right thumb or index finger, or in both; these digits were the most special parts of the body. 2. The words most often left to an aphasic who was, for the rest, entirely speechless, were "yes," or "no," or both; these "words were the most general of all propositions. 3. The aphasic might be unable to put out his tongue when told, although he moved it well in other ways; loss of the "most voluntary" movement, with persistence of the more automatic movements of that organ. 4. In what was called word-blindness, there was inability to recognise the latest learned and very arbitrary "objects," letters and words, whilst the recognition of objects properly so-called was unimpaired, or comparatively so. 5. In early stages of atrophy of the brain, say in that occurring so often after hemiplegia in men past middle age, there was defect of memory for recent events with seemingly good remembrance for long past circumstances, and there was at the same time loss or defect of the "finest" latest acquired emotions, with obtrusion of the coarser and earlier acquired. Different as these five examples were they were alike in that dissolution was definitely illustrated by each of them. Opinions differed vastly as to who were the men of greatest mental elevation. Some would put Napoleon highest, others Shakespeare and Goethe. But evolution supplied us with a scientific measure, which ignored superior and inferior, as these terms were ordinarily used with regard to men's minds. That measure was according to the intellectual and emotional differences between lower and higher races of mankind, and to those between children and adults.

Higher races of men and adults had the latest acquired faculties, and these, according to Spencer, were, intellectual, the power of abstract reasoning, and, emotionally, the sentiment of justice. So that instead of saying that a person was superior or inferior to most other men, we might say that he had more or less of the latest faculties of the race than most other men had. He by no means thought that to have the latest intellectual faculties most highly developed was the same thing as being most endowed intellectually. The poet inherited in some ways more of the earlier acquired faculties of the race, and had less of the latest than the scientific man had; yet no one would say that poets were mentally inferior to scientific men. Ignoring the term voluntary, on account of its psychological implications, and using the term special, he said that the arm was the most special part in the cerebral series, and failed first in disease of the brain proper; and that the back was the most special part in the cerebellar series, and fails first in disease of the cerebellum. He then went on to contend: By aid of the doctrine of evolution they would discover a harmony or rational parallelism between (1) psychology, (2) the anatomy and physiology of the nervous system, and (3) that important part of clinical medicine which dealt with diseases of that system.

Dr. EDDISON (Leeds), in moving a vote of thanks to Dr. Hughlings Jackson for his address, said he doubted whether such a complex question had ever been put before an audience with greater clearness.

Dr. BRISTOWE seconded the resolution, which was carried.

THE STEWART PRIZE.

The PRESIDENT said that the next piece of business must be gratifying to all of them. It had passed into the minds of some men who took an interest in that Association to leave a permanent record of that interest; and among others they had had no man who had had the interest of the Association and of his profession more at heart than the late Alexander Patrick Stewart. Dr. Stewart had shown that interest was not evanescent by leaving behind him a record in the shape of a sum of money, the interest of which was given annually to gentlemen who were believed to have done the best work of the year in the study of the prevention and treatment of epidemic diseases. This year the prize of £50 had been awarded to Dr. Edward E. Klein, F.R.S., for his very valuable and prolonged researches in micro-organisms, and especially for work in connection with the etiology of scarlet fever. Addressing Dr. Klein, the President said that the prize was not given in the way of compensation for the time, labour, and money he had spent in his researches, but such as it was he hoped Dr. Klein would accept it at the hands of the Association as the gift of an old and dear friend who had passed away from them and who had left it at their disposal.

Dr. KLEIN, in returning thanks, said he took it that the honour was conferred on all those who were engaged in research which had for its object the dealing with epidemic diseases. He regarded it not merely as an acknowledgment of his own services, but as a recognition of the services which that particular branch of work—bacteriology—had rendered to medical science in general.

The PRESIDENT announced that representatives were in attendance from Sydney, Jamaica, as well as New York, Baltimore, and other parts of America.

THIRD GENERAL MEETING, AUGUST, 15TH, 1889.

THE ADDRESS IN SURGERY.

The third general meeting of the members of the association was held in the Coliseum. Mr. C. G. Wheelhouse, president of the association, occupied the chair.

MEDICAL OFFICERS OF HEALTH.

The CHAIRMAN said he had been desired to inform them of a resolution that had been passed in the Public Medicine Section, and to ask their sanction to it:—"August 14th, 1889.—Resolved, that the best thanks of this meeting be tendered to the Parliamentary Bills Committee for their action in reference to the appointment of medical officers of health, that the committee be requested to continue their labours in the matter, and that in the English Local Government Act a clause should be inserted providing that no medical officer of health should be dismissed from office without the consent of the Local Government Board, and also, that in regard to the appointment of any such officers, the word 'shall' should be substituted for 'may' in the English Local Government Act." The resolution was unanimously sanctioned, and the president thanked the meeting for their help. The Chairman then called on Mr. T. Pridgin Teale, M.A., to deliver his address on

"DETAIL IN SURGERY."

Mr. TEALE, who had a cordial reception, said that happily his immediate predecessor, in devoting his address to a review of the surgery of the last half-century, had set him free to choose a subject more congenial to his habit and work. He hoped to show how much some of the triumphs and shortcomings of modern surgery were made or marred by the carrying out of detail—detail which was essentially the embodyment of principle, not the mere multiplication of points of practice such as might not materially further the end in view. In working out this line of thought he hoped to be able profitably to employ the time at his disposal, and to give prominence to conclusions which had been formed during a surgical life of over thirty years, made up not of his own work alone, but very largely of the freest inter-change of thought and experience with most friendly and active-minded colleagues, medical and surgical, with whom it had been his great happiness to be associated. In so doing it had been his endeavour to be as little egotistical as was compatible with the attainment of the end in view. He dealt first with the question of division of an artery between two ligatures. The division of an artery in this manner, he said, recently revealed to him more fully than he had ever realised it before the immense elasticity of the arterial coats, as the separated ends receded fully half an inch from one another. The question at once occurred to him, could it be right ever to tie an artery by a single ligature, and to leave this powerful force of elasticity to work for ulceration of the coats and gaping of the ulcer, with the risk of final disturbance by retraction of the divided ends when ulceration had completed its work? Might they not here find an explanation of the

numerous failures of ligature of the great arteries of twenty and thirty years ago, and of the fatal secondary hæmorrhages, chiefly from the distal end? And were they to recognise and act upon the fact of the elasticity of an artery, or were they to ignore it, and to place their patient at the mercy of elastic drag, tension, ulceration, retraction when liberated, and secondary hæmorrhage? Did it not also involve the larger principle of "rest" as an important factor in the healing of any tissue? He next dealt with the instruments used in the treatment of stricture, showing the superiority of that known as "Lister's sound," the invention of Sir Joseph Lister, and passed on to what he termed "effective drainage." This he defined as the provision for the escape of secretions—whether by position of openings, shape of opening, or by use of drainage tube—from cavities before they had time to putrefy, and for their reception into one of the aseptic absorbent materials with which surgery was now so abundantly provided. Passing to the question of ether *versus* chloroform, he said it was a subject on which he wished to speak with a sense of grave responsibility—the more so that he had to express views which were strongly opposed to those uttered at Glasgow last year by his predecessor in that chair. If anyone asked why he ventured to differ so widely and strongly from one whose surgical experience was probably not less than his own, and might be greater, his plea was as follows:—"For the first fifteen years of my surgical life, which includes ten years as surgeon to the Leeds Infirmary, I knew little of any anæsthetic but chloroform. So far, probably, our experience runs parallel. During the last fifteen years ether has almost superseded chloroform in my practice. Here the parallel ceases. Sir George Macleod's second fifteen years are still devoted to chloroform. He cannot speak from fifteen years' experience of ether. As a result of the comparison of these two periods, I unhesitatingly assert that ether is, for safety to the patient and for comfort and convenience to the operator, immeasurably the better anæsthetic of the two." Mr. Teale then went on to say that his earliest experience of ether was in the method introduced by Dr. Joy Jeffreys, who, at the International Ophthalmic Congress in 1872, preached his crusade against the almost universal use of chloroform, and called attention to the fearfully increasing fatality of chloroform. They responded to his call, in spite of the great disadvantages of the clumsy, wasteful, nay, harmful method of giving ether by lavishly pouring it into a cone formed of a towel, to which Dr. Jeffreys introduced them. The struggling of the patient, the icy coldness of the inhaled air, the saturation of the air of the room with ether, and the not infrequent and occasionally fatal bronchitis which followed, were such obvious drawbacks that the wonder was that ether survived as an anæsthetic in England. He then described the gradual improvements in the administration of ether: the introduction from America, by the Rev. E. Spencer Gough, a late Chaplain of the Leeds Infirmary, of the wicker grid; the invention of the inhaler by Ormsby, of Dublin; and its development into its present form by Clover. There were many hospitals in England, and still more, he believed, in Scotland, where the use of ether was practically unknown, or where, if ether was given, the obsolete towel or the grid, or the very inferior inhaler of Ormsby, was used; or even should the hospital possess a Clover it might not possess an etherist who knew how to use it to the best advantage. To administer ether badly was to bring it down nearly to a level with chloroform as to safety, and to render it inferior to chloroform as to comfort to the patient. A bad etherist would cause fear, coughing, sense of suffocation, and other distressing symptoms to the patient, and would take five to ten minutes in getting him under the anæsthetic; would use twice or thrice at much ether as was needful; would keep his patient overcharged; and would, now and then, set up a dangerous bronchitis. A good etherist would win the confidence of his patient, and would, in nine cases out of ten, have him ready for operation in two or three minutes, and not infrequently in about a minute and a half, without a struggle, without coughing, often without even a transient sense of suffocation, and with the expenditure of about half an ounce of ether; and would but need about one ounce of ether for each quarter of an hour that the anæsthesia was kept up. In such a case they need fear no danger at the time, nor subsequent bronchitis. The advantages to the operator were also very great. In the first place, his anxiety was less, his fear of a fatal issue less, and when obliged to trust to an inexperienced administrator, as he must do at times in sudden emergencies, he could more efficiently keep an eye on the patient's condition, and superintend the administrator, than when chloroform was used. In the second place, there was a saving of time, a patient being brought under the influence of ether in two or three minutes, whereas chloroform, in his experience, needed eight or ten, and such a saving was of no slight moment in modern hospital practice now that the sphere of surgery had become so enormously extended. In the third place, under ether, return of consciousness to pain generally lagged behind the return of mental perception, and thus anæsthesia could easily be re-established without interrupting the operation. So marked was this fact towards the end of a prolonged operation, that sometimes the surgeon might continue to operate for ten minutes or a quarter of an hour without re-application of the inhaler, and even converse with his patient whilst stitching up a wound. This was hardly, or rarely, the case with chloroform. He next dealt with surgical instruments of various kinds, indicating the best shape and make, and making suggestions for their improvement. In conclusion, he said that those who had expected to hear a triumphant record of the astonishing progress of surgery, or a pæan on their local surgical achievements, might be disappointed at the humble theme which he had attempted to work out, and might think he had failed to do justice to colleagues who had done much to leave a mark upon the progress of surgery. His aim had been, not to sound the praise of individuals, much as they deserved it, but rather to leave an impression on the practice of surgery.

Mr. MACEWEN (Glasgow) moved, "That the best thanks of the British Medical Association be given to Mr. Teale for his very able address on surgery."—Dr. MITCHELL BANKS seconded.—Both gentlemen spoke in flattering terms of Mr. Teale's attainments as an operating surgeon, an oculist, and a pioneer in sanitary science. The vote was heartily carried, and Mr. TEALE replied.

NOTICE OF MOTION.

The following notice of motion was given by Dr. RENTOUL, of Liverpool: "That this general meeting of the British Medical Association views with great pleasure the action of the Charity Organisation Society of London in presenting a petition to the House of Lords praying for an inquiry into the management of the Metropolitan Medical Charities, and earnestly hopes that the scope of the enquiry will be extended so as to include the provincial hospitals and dispensaries, and thereby obtain as complete information as possible upon this important subject. That a copy of this resolution be forwarded to the Lord President of the Privy Council, and that he be requested to receive a deputation thereon; that the Council be requested to appoint a special committee to deal with this question, and to request the Charity Organisation Society of England to form a similar committee to act in conjunction with it."

LAST GENERAL MEETING, AUGUST 16TH, 1889.

ADDRESS BY SIR J. CRICHTON BROWNE ON MEDICAL PSYCHOLOGY.

The concluding general meeting of the members of the association was held in the Coliseum. Mr. C. G. WHEELHOUSE, President of the Association, occupied the chair.

The PRESIDENT called on Sir James Crichton Browne to deliver his address on

THE HYGIENIC USES OF IMAGINATION.

Sir JAMES CRICHTON BROWNE said it was clear that a large amount of labour and solicitude in connection with the supervision and treatment of those afflicted with insanity or diseases of the mind fell upon the main body of their profession. But the 84,407 insane persons who were in asylums of one kind or another on January 1st last, and under the care of specialists, had all been consigned to these establishments on the evidence of medical men who were not specialists. The Lunacy Acts Amendment Bill, which was awaiting the Royal Assent, would, when it become law, to some extent relieve medical men from the apprehensions which had hitherto attended the signing of lunacy certificates but no Act of Parliament could in any way diminish the sense of responsibility attending a step, entailing deprivation of freedom, some opprobrium, and far-reaching disabilities; and the certification of the insane must therefore always remain an anxious duty to general medical practitioners, and bring home to them the truth that they had an immediate concern in medical psychology. The disinclination of medical men of late years to sign lunacy certificates, while it had had, perhaps, some deplorable results, it had this advantage, that it had led to an extension of the system of treating the mentally afflicted under private care, and had taught their profession that much might be done outside an asylum to alleviate and dissipate mental derangements. About the supreme importance of the early treatment of insanity there could be no question, but that did not necessarily imply removal to an asylum, a course which should not be resorted to hastily or prematurely—not until it was clear that such was unavailing to stem the gathering torrent of medical perturbation; for it was possible that it sometimes converted slight into severe insanity, stereotyped the infirmity, or created a tendency to its recurrence. In the performance of his daily duty, medical psychology met the general practitioner at every turn, and its relation to nervous activities must necessarily engage his attention to some extent. Directing their attention more particularly to a mental faculty that had certainly no narrow local habitation in the brain—to imagination—he impressed

upon them that this physical power had its hygienic uses, which neither the medical psychologist nor general practitioner could afford to neglect. Imagination awakened and called forth from their organic registers in copious currents the records and movements and sensory impressions. Imagination might be spoken of as a pioneer opening up new pathways in the brain, or as a mode of transit between its territories. The brain that was without imagination was like a country without roads or railways, in which locomotion was laborious and slow; and the brain richly gifted with it was like one in which steam and electricity had established easy and rapid communication.

Primitive imagination had been simple and direct, but the imagination of highly civilised races was intricate and circuitous. He did not propose to say anything about the operation and influence of the imagination when resting on intuitive beliefs and historical facts; and stirred by the most earnest cravings of our nature, it mounted into faith, and revealed to them "the substance of things hoped for, the evidence of things not seen." It would be neither expedient nor possible for him to trace out there the bearings of faith on corporeal and mental welfare, nor must he even pause to bestow the notice they deserved on those excrescences on faith known as faith-healing and Christian science, which had a certain vogue at present, and fell legitimately within the scope of medical inquiry. Regarding these, he would just say that a close scrutiny of their literature could not fail to create a painful impression. It was not to be gainsayed that faith, even in its aborted or degenerated phases as monstrous or dilapidated superstition, had a potent effect on the human organisms, and was capable of relieving and removing certain functional disorders; and credit might therefore be given to faith-healing and Christian science for some of the cures which they claimed. Their professors, like empirics of all sorts, had wrought modern miracles on hypochondriacal men, who had fallen into drivelling egotism; on hysterical girls who had entertained demons not unawares, and on a few sincere but highly sensitive persons who could pass at a touch out of one allotropic state of the nervous system into another. But the small good they had done these had been more than counterbalanced by the mischief they had wrought in encouraging imposture, in postponing medical treatment where it was needed, and inducing in their adherents an attitude of mind that was debilitating and conducive to the incursion of disease. Before faith-healers and Christian scientists could claim a hearing, they must learn how to make an accurate clinical report, apprehend what induction really meant, and abandon the baseless assertions in which they at present dealt. Only impatience and contempt came to the medical man who perused their pretentious archives of cures in cases which disease was evidently simulated, in which it ran its natural course, in which its existence was asserted, no proof being given, or in which it was of a purely subjective character, and might or might not depart at the word of command—such archives being, in one or two instances, accompanied by minute directions as to how post-officer orders are to be forwarded. Let the faith-healers and Christian scientists commence with skin diseases—woo the olcarus scabei from its burrow without aid of brimstone, arrest lupus, and wipe out a nævus, and we shall then be ready to follow them with some hope in their campaign against hidden maladies. Was it not a little anomalous that, while palmistry and astrology—which were, at any rate, ancient and picturesque forms of superstition—were strictly suppressed, the peculiar people should be allowed to carry on their practices without police interference unless it could be shown that a life had actually been sacrificed to their blindness? Would it not be well that the benevolent busybodies who, with an audacity commensurate with their ignorance, assailed the unimpeachable scientific conclusions of Pasteur, should transfer their attention to a class of persons who were really performing painful experiments on living animals, to those faith-healers who, by their well-meant but futile inunctions, protracted sufferings which, in many instances, medical aid would speedily relieve? But his theme now was not faith-healing or faith—which faith-healing travestied—but the secular imagination and its hygienic uses, his aim being to convince them that it was one of the most effectual of those psychical agencies by which they might modify the conditions of health and disease.

The scientific use of the imagination in relation to medicine might be properly included in its hygienic uses, for that faculty was the main instrument of discovery in their investigations, both as regard the specific maladies of their patients and the nature and affinities of disease generally. As medical men, they had not merely to identify and catalogue the symptoms of disease, but they had to trace them to their antecedent and true causes, and this they could only do by invoking imagination's help to supply them with speculations and hypotheses, which were not less essential to them in their work than the microscope, test tube, and clinical thermometer. All true science rested on imaginings, and was, strictly speaking, a body of established truth which imagination had built up. Observed phenomena had to be explained by unfolding their causes; and in medical inquiry, as in common life, a provisional guess was hazarded, which was then put to the test by further observation and experiment. Of course such provisional guesses were often wrong, and have to be dismissed. But all the most adamantine truths of science had been provisional guesses to begin with—provisional guesses furnished by imagination, and proved by the touchstone of experiment, and so brought to more than mathematical certainty. The cultivation of the imagination then—and it could be cultivated and disciplined to agility and steadiness of action—was of high importance to them as medical men, and they need not fear that they were altogether wasting their time when they turned aside now and then from their professional tasks to ramble for a little in the green pastures of literature, or climb the pinnacles of art.

True, their imagination might be fully trained for its professional duty, as it was exercised, in conjunction with observation and judgment, in the scientific sphere; but it would be braced, invigorated, and have its resources multiplied by recreating occasionally in its native air. Even if, when indulged in moderation, imaginative pursuits did not strengthen the hands of medical men in grappling with disease, or quicken their scientific vision, these would still be commendable, because of the refreshment they bring to jaded brains. To turn from the fatigue and anxieties of practice into realms where rivalry were no more, and night bells never rang, was to plunge into one of the most soothing and depurative of "tired Nature's" baths. Members of their profession were, he suspected, generally aware of this, and resorted to imaginative literature, music, and art more than any other class of professional men, except, of course, artists and men of letters, and to an extent that was remarkable, considering the engrossing claims made on their time and the scant leisure enjoyed. Having referred to some of the by no means insignificant contributions of medical men to the department of imaginative work, Sir James Crichton-Browne remarked that it was not as producers, but as consumers of poetry and imaginative literature that medical men derived from them their restorative influence.

It might be objected that the imagination, if sometimes stimulating and restorative in its influence, was often morbid in its tendencies, and that its indulgence was to be guarded against by those who desire to possess well-regulated minds. But the weak vessels wrecked by imagination were really fewer than was commonly supposed; and he did not hesitate to say that for one case of insanity caused by excess of imagination, there are a dozen caused by the want of it. Apathetic dulness and torpor of mind were apt to deepen into dementia; and those entirely given up to "the care of this life and the deceitfulness of riches" were more likely to be choked by them than those who could surmount them, and breathe the free and ample air of æthetical emotion. A vulgar error as to the nature of insanity had perhaps conduced to exaggeration as to the dangers of imagination. Visitors to asylums invariably arrived expecting to find growths of morbid invention and belief, wild, tangled, and luxuriant as a tropical forest, and left much disappointed by the barrenness of the land, for the insane were the least imaginative of beings. Idiocy was the absolute negation of imagination, and insanity undermined and destroyed or enfeebled it more or less; and, when they drive out insanity, the first thing they did was to invoke imagination's aid, for moral treatment consisted mainly in appeals to this faculty, and fully acknowledged its hygienic uses. The first recorded cure of melancholia was by the harp of David, and to-day, in every lunatic hospital worth the name, persistent efforts were being made by music, by pictures, by poetry and the drama to stimulate the imagination, and thus "cleanse the bosom of that perilous stuff that weighs upon the heart." Like every good gift, imagination might be prostituted and abused, and, in the history of art, literature, and the drama, abundant proof might be found that it had been made to pander to vice and folly. But, when this had been the case, it was not so much the imagination that had been at fault as a certain pestiferous element that had been infused into it. The records of crime, when reported with prurient detail, and with a halo of romance thrown round them, had sometimes a permanently pernicious effect, and tended to reproduce themselves. Men of taste and delicately reared imagination turned from such garbage with disgust, but there were always sickly and partially depraved natures ready to be powerfully affected by strong impressions of a criminal complexion. Sheer weakness and vacuity or instability of temperament are the soils most congenial to vicious and atrocious ideas. A highly and widely cultivated imagination seems to increase physiological resistance to morbid and profligate suggestions, and also to pathogenic germs, for in plague and pestilence those are most likely to escape who have varied mental resources, can distract their minds and look beyond the moment, and those are most likely to escape who give themselves up to abject fear.

Having alluded to the undoubted enormous and progressive movement that had taken place in the purity of our literature and of the drama, Sir James Crichton Browne pointed out that the preservation of our

juvenile literature from any taint was of paramount importance, for impressions made on the imagination while brain development was actually going on were only indelible, but highly influential. That the craving for works of fiction was not only great but growing might be deduced from the statistics of public libraries, the amount of light literature produced, and the fact that newspapers now formed syndicates to supply their readers with a modicum of fiction. To them as medical men it was interesting to remark that this appetite was most urgent in spring, when nervous erithism existed, and "a young man's fancy lightly turns to thoughts of love"—and was least pressing in autumn, when the nervous system was comparatively quiescent. In conclusion, he repeated the assertion that imagination must always receive primary consideration in a study of mental hygiene.

Dr. NEEDHAM (Gloucester) moved a vote of thanks to Sir James Crichton Browne for his address. In doing so, he remarked that medical psychology had attained a position which entitled it to be placed on very much the same platform as general medicine.—Dr. RINGROSE ATKINS (Waterford) seconded the motion, which was carried by acclamation.

THE METROPOLITAN MEDICAL CHARITIES.

Dr. RENTOUL (Liverpool), in accordance with notice, moved the following resolution:—

"That this general meeting of the British Medical Association views with great pleasure the action of the Charity Organisation Society of London, in presenting a petition to the House of Lords praying for an inquiry into the management of the Metropolitan Medical Charities, and earnestly hopes that the scope of the inquiry will be extended so as to include the provincial hospitals and dispensaries, and thereby obtain as complete information as is possible upon this important subject. That a copy of this resolution be forwarded to the Lord President of the Privy Council, and that he be requested to appoint a Special Committee to deal with this question, and to request the Charity Organisation Society of England to form a similar committee to act in conjunction with it."

Mr. HART (London), in seconding, remarked that the question concerned not only, and chiefly, medical men, but the general public and hospital managers. He believed the course recommended was thoroughly practical.

Mr. ARTHUR JACKSON (Sheffield) and Surgeon-Major INCE spoke on the motion. The latter said the subject bore not only on the management of hospitals, but the more delicate question of the exclusion or segregation of out-patients. There was a feeling that many of those who applied to hospitals and dispensaries were not fit recipients of the bounties of those institutions. It was the custom in some hospitals to charge the out-patients for medicine, which he considered was a reflection on their profession.

The proposition was then agreed to.

Several resolutions passed by the Public Health Section were afterwards reported, and were referred for consideration to the Parliamentary Bills Committee.

VOTES OF THANKS.

The PRESIDENT remarked that they had been entertained in the handsomest manner by a large number of persons in Leeds. He proposed that votes of thanks be passed to them.

The motion having been carried, Dr. J. W. COUSINS (Portsmouth) proposed that the President be thanked for so ably presiding over the annual meeting, and for his continued exertions in the interests of the association.

The motion was carried with acclamation, and the proceedings terminated.

SECTIONAL MEETINGS.[1]

PUBLIC MEDICINE.

THIS section sat in the Philosophical Hall under the presidency of Dr. Edward Ballard, F.R.S., Medical Inspector, Local Government Board.

MEDICAL OFFICERS OF HEALTH.

Dr. BALLARD opened the proceedings of the section by reading a paper on "Medical Officers of Health: Their Training and the Conditions on which they should Hold Office." The subject, he said, was one which had been brought into prominence by a recent statute, and by the promise of further legislation in the same direction. It was clear that there was abundant room for the expression of both professional and non-professional opinion as to what should be further done, and what the relation shonld be between County and District Councils and their respective sanitary officers on the one hand and between the latter and actual sanitary authority of the kingdom on the other hand. In considering the requisites for a good and efficient medical officer of health it was evident that first he must possess himself of due learning. What he meant by that, of course, was that his mind must be specially stored with that kind of learting which should fit him to deal with and to advise about disease, not as it affected the individual but as it affected the community. It went without saying that, as communities were made up of individuals, a knowledge of disease as it affected individuals was the basis of the knowledge of disease as it affected communities; and this was the reason why an officer of health to be efficient must be a medical man. No knowledge came amiss to him. He had to deal often with complex problems, to solve which his mind could not be too well furnished, and furnished with information that the ordinary practitioner of the healing art had little or no call for, including such branches of knowledge as meteorology, geology, sewer and water engineering, the construction of houses, the ventilation of private and public buildings; or, to pass to living things, bacteriology, the subtle and often tortuous path of epidemic contagion, the physical and sometimes moral peculiarities of race, or the diseases of animals lower than man in the scale of creation, but domesticated for his use. When medical officers of health were first appointed in this country the necessity for special knowledge was scarcely recognised; but a considerable step was made in recognising this—that an officer of health should be a medical man. As he spoke that day the necessity for special knowledge had obtained recognition by Parliament. This was another great step in advance, ann not only so, but in the great schools of medicine in England, Scotland, and Ireland, provision had been made for giving requisite instruction. Secondly, to make a man an efficient health officer he required to be trained. The requisite science he might be taught, but the art was only to be acquired by practising it and by watching others practise it. It was the same with preventive as with curative medicine. The physician did not learn his art in the lecture room, but in the hospital; so the health officer learned his, either slowly and laboriously, with many mistakes and even some blundering in striving to carry on his duties, or he might take the shorter road of acting, working practically under the direction or supervision of another. He hoped that at the next session of the Medical Council some regulation pertaining to this subject would be formulated. Lastly, he might mention "tact"— an acquisition of rare value, but one the possession or lack of which might make all the difference between the successful and the inefficient medical officer of health. Deficiency in tact was a fault chiefly observable among the junior members of the confraternity. Anxious to serve their district, earnest and enthusiastic, they chafed at obstacles which they found impenetrable, and were ready to give up a strife which, over and over again, terminated in their discomforture. It was men of this stamp (and they were not always –he said it with bated breath—young men) that he heard perpetually calling out for central interference. They forgot that they were advisers, not administrators; that good and proper as their advice might be, there might be difficulties not apparent to them in at once pursuing it. A medical officer of health was not an autocrat; it was never intended that he should be one. Often and often it had happened that health officers, who had made this mistake, had sought his condolence with them in the tribulation they had thus brought upon themselves. They all got from him pretty much the same advice, which was to be patient, to bear with the infirmities of their weaker and less intellectual brethren, and keep their own consciences clear amidst all discouragements by carrying out their duties to the best of their ability, and leave other people to look after theirs.

Dr. G. E. J. GREENE (medical officer of health, Ferns, Ireland) contributed a paper which was read in his absence. He though that the chief reason why a medical officer to a dispensary district in Ireland, who was also a medical officer of health, was frequently found to perform his sanitary work in an imperfect manner was because it was often financially to his advantage to be "sanitarily amaurotic," especially when he who permitted a nuisance to exist was a well-to-do patient. Medical officers of health should possess a diploma in sanitary science, obtained by passing a Government examination in analytical chemistry, botany, geology, pathology, and sanitary engineering; should hold jurisdiction over a large area; he appointed by and draw their pay from Government, which pay should be sufficient to support them without their engaging in any other occupation; should not engage in private practice; and should have the option of promotion to a better district after some years service. The Parliamentary Bills Committee of the British Medical Association might have a bill embodying some of these practical points introduced next session into Parliament.

Dr. GRIMSHAW (Registrar-General of Ireland) wrote saying that had he been present he had intended to advocate a system of organisation of public health officers on the Irish system. He was strongly in

[1] *Leeds Mercury*, August 14th, 15th, 16th, 1889.

favour of combining in one person the offices of poor-law officer, public vaccinator, district medical officer of health, and registrar of births and deaths. Such a civil medical service was the foundation upon which the whole State medical system should rest; only there should be independent offices, say for counties and groups of unions. There should be inspectors, then superintendent officers for counties, and then again the really active officer who combined all the offices together. He thought a local officer should not require so high a qualification as the county officer or the combined Union officer.

Dr. CALDWELL SMITH (Glasgow) pointed out that under the Scotch Local Government Act medical officers of health in Scotland had attained some tenure of office, and could not now be dismissed without the consent of the Board of Supervision. That, of course, was a very great point, and he thought the meeting should memorialise the Government that next year the English Local Government Act should have a clause embodying the same principle.

Dr. LITTLEJOHN (Edinburgh) was of opinion that a medical officer should not be bothered too much with chemistry. Chemistry had made such advances in the past few years that it was impossible for a man engaged in sanitation to complete with a chemist on his own ground. He should certainly be qualified to advise on adulteration, but that was sufficient. He supported Dr. Smith's view with regard to tenure of office, and said that what they chiefly complained of was the miserable salaries given for sanitary duties. The Chairman's remarks on tact could not, he thought, be too heavily emphasised.

Alderman EMSLEY (Leeds) disagreed with the proposal to take the power of dismissing the medical officer from the Corporation or the local authority which employed him. In Leeds they had not found that the Local Government Board had done in many instances what the Corporation with the advantage of local knowledge thought was the only thing that could properly be done. At present the Leeds Corporation was trying to get at the cause of the high death-rate, and it was probably that ultimately they would either have to move for an Act of Parliament or else take action under the Artisans' Dwelling Act. In his opinion the difficulty would have to be met as Birmingham had met a similar difficulty by taking large areas and securing their improvement. There was another point on which he was sure the Corporation of Leeds, and probably other large towns, would like to have the advice of the section—the subject of river pollution. The River Aire at present was simply a vast sewer. Whatever Leeds endeavoured to do to prevent pollution from the town itself was unavailing, because higher up there were the towns of Bradford, Shipley, Apperley Bridge, and many other towns, all of which poured refuse into the river.

Dr. ALLFREY (St. Mary Cray, Kent) said he was perfectly satisfied that it was absolutely necessary that a medical officer, if he intended to do any good at all, should be independent of private practice. He thought the plan of organisation suggested by Dr. Grimshaw was the best that had yet been devised.

Mr. A. DE'ATH (Buckingham) contended that as the Local Government Board now very wisely supervised the work of the vaccination officer it would be desirable that the same supervision should be exercised over medical officers of health and local authorities.

Dr. WHITELEGGE (Nottingham) said that medical officers ought to be able to form a common-sense opinion based on an ordinary knowledge of the subjects of chemistry, engineering, and Acts of Parliament bearing on their duties, and they should decide on most of those points for themselves. The one qualification that was essential was a familiarity with infectious diseases, and he warned them that in dealing with matters of that kind public opinion was too emotional to be taken as a guide. He supported the view that the tenure of office should be subject to the control of the Local Government Board, and he held that it would be unwise in any way to relax the control of that Board.

Mr. BRINDLEY JAMES (London) considered that the training of the medical officer of health was a very important factor. He should be properly trained. Every medical officer should be apprenticed, and should study the various branches of science connected with sanitation, and should be well up in chemistry and the applied sciences. He should hold office for life, and should not be allowed to practice as a general practitioner.

Mr. W. HOLDER (Hull) thought pupilage was becoming as necessary in all branches of the profession as it was in the old times. The office of medical officer of health was comparatively new, and he believed that some Corporations had not yet been fully educated to recognise the benefits that were to be derived from the office. He should not like to think that any man could be appointed for life.

Surgeon-Major POOLE (London) advocated the selection of medical officers from the general body of medical practitioners, instead of, as was the tendency at present, from the ranks of specialists.

Mr. OGILVIE GRANT (Inverness) and Dr. GREENWOOD (London) continued the discussion.

Dr. BROWN (Bacup) read a paper in which he argued that there ought to be appointed by the L.G.B. an officer who was well able to train men in their work. The conditions on which medical officers now held office were scandalously unsatisfactory. If faithful in the discharge of their duties they might have to resign, to submit to reductions in their salaries, and to other petty annoyances. Salaries should be fixed by the central authority at a fixed minimum in all large districts, though for County Councils this might not be absolutely necessary; and there should also be a fixed minimum of increase for every five or seven years. This would be conducive to the best interests of the people.

Dr. BALLARD, replying on the discussion, said it did not follow that because the Irish system was successful in Ireland it would suit England. In his experience he found that local authorities very often did not appreciate a man as a medical adviser but simply as an inspector of nuisances, which was not the position of a medical officer at all. He was quite sure that that section would not wish in any way to advise or suggest anything in the present condition of the medical affairs of Leeds. It was only general principles he thought on which they could say a word. One point raised by Alderman Emsley was that of cutting up a large town into small districts, and giving to the medical officer for each a small salary. That idea would never do either in Leeds or any other large district; unless a medical officer had time and opportunity to progress he was almost useless. The rivers pollution question, he thought, was dealt with under the new Act.

Dr. CALDWELL SMITH moved the following resolution :—

That in the English Local Government Bill a clause should be inserted providing that no medical officer of health shall be dismissed without the consent of the Local Government Board, and also that in regard to the appointment of medical officers the word "shall" should be substituted for "may" in the Local Government Bill.

Mr. LOE (Leeds), seconded, and the resolution was adopted. It was also agreed to thank the Parliamentary Committee for their efforts to secure the recognition of the principle, embodied in the resolution, when the bill was before Parliament.

A CABINET MINISTER OF PUBLIC HEALTH.

Mr. J. BRINDLEY JAMES read an address in which he advocated the establishment of a civil medical service of the Crown. We had Ministers of Commerce, of Public Works; the Post Office was represented in the Ministry, but no recognition of the medical profession itself had ever existed officially in England. What was needed to constitute a proper medical administration—not necessarily a complex one—was the creation of two medical peers—one a distinguished consulting surgeon, the other an eminent physician—and a Cabinet Minister of Public Health, with the prospect of a similar distinction on retiring from his office, his appointment thereto being based absolutely on his professional eminence and abilities alone; in no way on his political sympathies. These might appear startling proposals, but it should be remembered also that while the Bar and the Church offered the prospect of attaining the highest State distinctions, Medicine alone had always been Cinderella of the three learned sisters—quite as useful and comely, but unrecognised by "the world." Disease and death were no respectors of persons, striking alike at Pharaoh on his throne and at the bondsman at his gate; it was clear, therefore, that the sanitary state of the public was as much a State interest as public finance, war, commerce, or agriculture. Moreover, the Bar and the junior branch of legal practitioners had each their hierarchy culminating in high officials of the Crown, who efficiently maintained their professional etiquette and dignity, able to promptly expel unworthy members of the profession from its ranks; the purity of the Church was protected in a similar manner, and was likewise represented in the House of Lords; but the medical profession, which expected each of its members to prove himself alike a scientist, a practitioner, a philanthropist, and in every sense a gentleman, had no real executive to maintain its standard and protect its interests. Two medical lords would ensure it a due amount of Parliamentary supervision, and forcibly benefit the whole community, if only forcibly suppressing quackery. But their existence would avail little without the creation of a Minister of Public Health, absolutely independent of any political consideration whatsoever, as in private life we entrusted our relatives' lives to the most able practitioner, whatever his tenets, political or religious. His tenure of office should, therefore, be unaffected by change of Government, and he should be entrusted with full powers of selection, promotion, or removal of all public officers of health, whose personal fitness and personal interest his own Ministerial would fully guarantee, while a peerage would prove a fitting reward at the close of his career. To his arbitration all points of medical ethics, all questions relating to medical education and examinations, should be referred, and the whole control of the curriculum should be entrusted to him and the two medical peers concurrently. The abstention of all public medical officers of health

of course implied compensatory salaries, but the gain to the people at large in health and longevity would render this expenditure true economy. Finally, it should be an essential condition that all future candidates for vacancies in this "Public Medical Civil Service" should have served a previous apprenticeship under some one of their predecessors, under conditions regulated by the Medical Minister assisted by the two Medical Lords. Might they hope these suggestions would be ultimately endorsed by the time-honoured professional injunction "*statim sumenda?*"

No dicussion arose on the address.

IMPURE MILK AND TYPHOID FEVER.

Dr. A. M. Anderson (Medical Officer of Health, Dundee) sent a paper dealing with a "Peculiar teat-eruption in a milch cow with an outbreak of typhoid fever among the consumers of the milk." From facts which were quoted the writer concluded that the spread of typhoid fever infection among the persons using milk from the infected diary was greatly checked owing to measures which were taken to renew and trap a drain leading from the cowshed to the main sewer in the street which had been found to be defective and untrapped. The cow, too, was isolated from the rest, since when it had been milked by the cattleman, who did not milk the other cows, and its milk had been used for feeding young calves, none of it being sold or distributed to the public. Having regard to the incubation period of the disease, he thought it might be fairly maintained, although not conclusively proved, that eight cases of typhoid fever which occurred between April 15th, when the measures alluded to were taken, and May 15th were caused by infected milk consumed prior to the former date, and that the milk was wholly non-infectious after April 15th.

Dr. Caldwell Smith did not think that Dr. Anderson had proved his case. He was afraid that, what with typhoid and scarlet fever, the poor cow was going to have a bad time of it, and he urged that, instead of fixing primarily upon the milk as a cause of the cases mentioned, other things ought to have been taken into consideration as well.

SANITATION IN LEEDS.

Dr. Churton (Physician to the Leeds General Infirmary) contributed a paper on "Results of a Systematic Inquiry into the Sanitary State of the Homes of Hospital In-patients," which was read in his absence. The inquiry was undertaken in order to ascertain the possible share which insanitary conditions at home, and especially defective drains, might have in the causation of diseases of medical in-patients. The author, in his paper read at Glasgow last year, had estimated that approximately one-fourth to one-third of hospital patients had grossly insanitary homes, and he then remarked upon the unwisdom and costliness of sending patients back to the bad conditions from which they came, and which had helped to make them ill. It was not practicable to investigate the homes of patients who came from the country, but only of those living in the borough of Leeds. At first the cases for investigation were selected, the addresses of those patients only being taken whose diseases or histories seemed to warrant the suspicion that something was wrong at their home. Of these fifty-three houses were examined; twenty-eight were found defective. Cases were next taken from the medical and ophthalmic wards, without any reference to the nature of the ailments—the house of every patient living in Leeds being examined—of these there were 435; eighty-one houses were found to be defective. It thus appeared, with respect to in-patients, that about one house in five was in a distinctly insanitary state. The defects were mainly want of traps to the sink-pipes and broken drains. Occasionally an exceptionally offensive privy was the ground of complaint; sometimes a good condition within the house was counter-balanced by an offensive gully, exhaling gases from the street drains, within three feet of the front door. The examinations were made by the sanitary inspectors of the borough. A list of the Leeds patients was sent weekly or fortnightly to the sanitary office, and by the kind co-operation of the Medical Officer of Health (Dr. Goldie) and the Sanitary Superintendent (Mr. Newhouse), the inspections were at once made, and reports furnished. Although the ophthalmic cases—many of them simply accidents, and without disease of any kind—might have increased the number of healthy houses inspected, the comparatively low ratio of defects was a pleasant surprise. Personal investigations made during eight years (ending in 1885) among patients of the Leeds Dispensary had prepared the author for a much worse result; but he had not realised to the full the efficiency of the work of the sanitary authority, and the quiet reform which had been gradually taking place, house by house, from one cause or another in the borough. But there still remained much to be done when 20 per cent. of all the houses inspected appeared to be unsound. It had been shown that the reporting of patients' addresses to the sanitary officers was a very easy matter, and their inspections could not fail to be of service to the patients, and eventually to the hospital. It was hoped that the experiment, which would be continued as long as possible at Leeds, would be tried at some other hospitals also. One great advantage resulting from this inquiry had been that 109 houses (containing about 500 persons), which otherwise might have remained defective, had been put into a perfectly sanitary state.

Mr. R. C. Appleton (Beverley) was strongly of opinion that bad bye-laws had much to do with the bad health of large towns. He cited the Kirkstall Road part of Leeds as an example of spacious and well-ventilated streets, which might well be copied by other large towns.

Dr. Roberts (Keighley) gave some particulars of the sanitary work which had been accomplished in Keighley in recent years.

The section then adjourned.

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The section of Public Medicine again met in the Philosophical Hall.

The President (Dr. E. Ballard, one of the Medical Inspectors of the Local Government Board) occupied the chair. The attendance was larger than on the previous day.

DISINFECTION WITH REFERENCE TO THE CONTROL OF EPIDEMICS.

Dr. Parsons (formerly Medical Officer of Health at Goole, and now an Inspector of the Local Government) read a paper on the above subject. He said that by disinfection he meant the destruction of infection, the destroying of the activity of that matter which, produced by a sick person and received into the system of a healthy one, had the power of causing in the latter a disease similar to that from which the former was suffering. Modern research has shown that certain diseases in men and animals were undoubtedly caused by the presence in the system of micro-organisms that were communicable by the inoculation of such organisms. It was in most cases not practicable to test directly the effects of their disinfecting agents upon the contagia of the ordinary infectious diseases of mankind, for the reason that they could not make the necessary experiments (including control experiments with undisinfected portions of material) upon human beings, and these diseases could not, or could not with certainty, be produced by inoculation in the lower animals. If, however, they chose the most refractory organism pathogenic to animals that they could find, and ascertain how it might be killed, they would be tolerably safe in assuming that the same means would kill the contagia of the infectious diseases of mankind with which as sanitarians they had to do. Now, certain of the pathogenic micro-organisms, bacilli, had the property of forming spores, and these spores were found to be more resistant than the fully developed organism, just as a grain of wheat would survive treatment, such as drying and dipping in poisonous solutions, which would kill a growing plant. Of the pathogenic microbes the most convenient for the purpose of testing disinfecting agents was the bacillus anthracis. It formed under certain circumstances spores which were exceedingly tenacious of life; it could be cultivated, and was easily recognised both by its microscopic character and its appearance when growing and if inoculated into animals it produced in them with certainty the disease known as anthrax. None of the infectious diseases of mankind were known to be caused by spore-bearing microbes, though it was possible that small-pox, the contagium of which was very tenacious of life, may turn out to be so, and so far as their present knowledge and experience went, they might assume that means which would destroy the spores of the bacillus anthracis might be relied on as efficacious for their purpose, though it did not follow that agents which did not destroy the bacillus anthracis were therefore useless against the less resisting contagia of other diseases. An extensive and important series of researches upon the efficacy of disinfectants, conducted by Koch and his coadjutors for the German Imperial Board of Health, was in large part the foundation of our modern knowledge on the subject, though his results had been confirmed and extended by other workers, as Dr. Klein in this country, and a committee of the American Medical Association in the United States. Carbolic acid was found have a powerful restraining effect upon the growth of bacteria, but was much less efficacious in destroying their vitality. To kill spore-bearing forms, it was necessary to steep them for one or two days in a 5 per cent. watery solution; a 2 per cent. solution only killed them at the end of a week, while a 1 per cent. solution did not kill them in fifteen days. Solutions of carbolic acid in alcohol or oil had not the smallest disinfecting effect; a 5 per cent. solution did not kill spore-bearing bacilli, however long they were exposed to its action. Vapour of carbolic acid at ordinary temperature had no destructive effect on spore-bearing bacilli, though some effect was produced at elevated temperatures. In other cases, also, it was found that the disinfecting effect of substances in the form of vapour was increased by elevation of temperature; thus, spores of bacilli in garden earth were killed in two hours by exposure at a temperature of 176 degrees Fahr. to the vapour of bisulphide of carbon, although neither a temperature of 176 degrees Fahr. in dry air, nor the vapour of bisulphide of carbon in equal concentration at ordinary temperatures

had any destructive action at all on them. Sulphurous acid gas was found efficacious for the destruction of non-spore bearing organisms. Exposure to one part in 100 of air killed micrococci, if dry, in twenty minutes; if moist, in one minute. Spore-bearing forms, however, were not killed even after fourteen days' exposure to a 6 per cent. gaseous mixture of sulphurous acid gas in air. Chloride of lime had no disinfecting effects; spores of anthrax bacillus which had remained for a month in a 5 per cent. solution were in no way affected. Experimenting with heat in the dry form, Koch found that bacteria free from spores could not withstand an exposure of one and a half hours to a temperature a little over 212° F. in hot air, but that spores of bacilli were only destroyed by remaining three hours in hot air at 284° F. He also found that in hot air the temperature penetrated so slowly that after three or four hours heating to 284°F. articles such as small bundles of clothes and pillows were not disinfected, and that by heat of this degree and duration most textile materials were more or less injured. The results with steam were strikingly superior. It was found that an exposure of five minutes to steam at 212° F. was sufficient to kill the spores of the bacillus anthracis, and that the penetration of the heat into articles exposed to steam took place far more rapidly than into the same articles exposed to hot air. A series of experiments made by Dr. Klein and himself confirmed, on the whole, these results of Koch. The materials experimented with were spore-bearing cultures of anthrax bacillus, anthrax blood free from spores, bacilli of swine fever, and tuberculous pus, and the results were tested by inoculation on animals. Their results were more favourable to the efficacy of dry heat than those of Koch. They found that spores of bacillus anthracis were killed by exposure for four hours to a temperature between 212° and 216° F., or for one hour to 245°. Non-spore bearing bacilli were rendered inert by one hour's exposure to 212° and 218° F. Anthrax spores were killed by boiling for a minute in water, or by exposure for more than five hours to steam at 212° F. They also found steam heat to penetrate far more rapidly than dry heat. Similar results had been observed by other observers, so that the superiority of steam over hot air as a disinfectant might be looked upon as thoroughly established. Burning, of course, was a very thorough means of disinfection. It was characteristic of the class of infectious diseases that the morbid poison which produced disease multiplied in the body of the patient, and was given off again from it, and that it continued thus to propagate itself for a considerable period, often for several weeks. The poison was believed to be especially given off from the part of the body upon which its local effects were manifested, as from the skin in smallpox, the skin and throat and perhaps the kidneys in scarlet fever, in discharges from the throat and nostrils in diphtheria, and from the bowels in enteric fever and cholera. There was reason to think also that the contagia of some at least of these diseases could multiply in suitable media outside the body, as in milk, sewage, soiled linen, or moist sewage, contaminated soil; perhaps, also, even in potable water. On the other hand, some of the pathogenic organisms were found to perish as putrefaction advanced, either through the formation by them of chemical compounds antagonistic to their own life, or through the competition of the ordinary putrefactive forms, just as in a neglected garden the exotic flowers were choked or stifled by rank growths of the indigenous weeds. Contagia were not as a rule permanently destroyed by cold, though that of yellow fever was so. They also, in general, were able to survive drying, though Koch states that drying was fatal to the comma bacillus which he finds in Asiatic cholera. The matters which may act as carriers of infection, and might thus require disinfection, were: (1) The body of the patient, living or dead; (2) the discharges given off from the body of the patient, and more particularly those from the organs specially affected by the disease; (3) the air tainted by exhalations from the sick, and the poison probably existing therein in the form of suspended particles; (4) the clothes, bedding, and other textile articles used by the sick; (5) utensils of various kinds used by the sick; (6) articles of food, as milk and water; (7) walls, floors, etc, of dwellings occupied by the sick, especially dust and dirt lodging upon the walls, and dirt accumulating in the cracks of the floor; (8) collections of filth, as sewage, especially in a stagnant state, or deposited in, or encrusting the sides of foul drains, foul ground surfaces, and subsoil. It was not of much use attempting to disinfect the infected air of sick rooms by chemical means, for active chemicals, if present in sufficient quantity to be effective as disinfectants, would render the air irrespirable. It was easier to get rid of it, and let its place be taken by fresh air. The contagia of most infectious diseases appeared to be destroyed when fully diluted with fresh air. The poison of typhus fever was notably so, but that of smallpox did not appear to be, as Mr. Power had shown that smallpox might be disseminated through the air for considerable distances around a hospital in which many cases of that disease were under treatment. To avoid this it had been proposed that instead of ventilating smallpox wards into the open air, the air from them should be extracted through a flue and burnt in a furnace; or he might suggest that a steam blast might be used to extract the air and disinfect it at the same time. Of chemical disinfectants for the disinfection of excreta, corrosive sublimate was probably the most trust worthy and suitable for ordinary use. In its use, however, precautions had to be borne in mind, because it was very poisonous. After alluding to various other chemical disinfectants, Dr. Parsons said that with care, and in a suitable apparatus, most articles could be submitted to either dry or steam heat without serious injury, but leather was instantly destroyed by steam. Books, in these days of free libraries, sometimes wanted to be disinfected. It might be done by exposing them to dry heat, the covers being held back so as to open out the leaves, and allow the heat to penetrate. Steam was inadmissible, as it would soften the glue and destroy the leather. A process suitable for the disinfection of rags at paper and shoddy mills was a great desideratum, the requisites being that it should be cheap, rapid, and effectual, and applicable to rags in the bale without unpacking. For house disinfection, fumigation with sulphurous acid or chloric gas, the latter preferred, followed by thorough cleansing and scrubbing, the removal of wall-paper and lime-washing were to be recommended; but these processes, to be effectual, needed to be carried out with more thoroughness than was often done. A difficulty often met with was to know where the inmates were to go while the house was being disinfected, and it would be useful for this and other purposes if the sanitary authorities had power to provide refuges for people whom, although not themselves sick, it might be desirable to remove from their homes.

DISINFECTION AND ISOLATION IN THEIR PRACTICAL ASPECT.

Dr. CALDWELL SMITH (Glasgow) read a paper on "Disinfection and Isolation in their Practical Aspect." He remarked that disinfection and isolation, to be of any use at all, must be thorough and complete. It was his experience, and he was quite certain it was theirs also, that in the great majority of cases of zymotic disease the former had been carried out very inefficiently, while the latter was very frequently not carried out at all. Until disinfection and isolation were carried out with the utmost thoroughness, they could not hope ever to reach that milennium of preventive medicine when zymotic disease shall have ceased to exist. With regard to isolation in hospitals, he thought that in a large town the different zymotic diseases should be treated in separate pavilions, and no communication should exist between wards containing cases of different zymotic disease. In the case of the larger towns, the pavilion for small-pox should be situated at a distance from the other pavilions. He suggested that it should be at a distance of two or three miles from the nearest occupied dwelling, and surrounded by a belt of trees, but not sufficiently near to interfere with the free circulation of air round the building. In the larger towns there should be a separate resident medical officer, whose duty would solely consist in attending to cases of disease in the hospital. In the case of the smaller towns and the rural districts, provision should be made by means of cottage hospitals. Alluding to the question of disinfection in hospitals, he said that each hospital should, as a *sine qua non*, contain a steam disinfecting apparatus; a laundry should be provided at a distance from the hospital, and no communication should be allowed between those handling the infected and those handling the disinfected articles. He had known several cases of scarlet fever and small-pox in washerwomen in that way. As to disinfection and isolation at home, it was at all times a difficult matter. Among the poor it was absolutely impossible, and in cases of smallpox and typhus in all cases it should not be attempted. In cases, however, of scarlet fever, measles, diphtheria, and typhoid among the well-to-do, it might often be carried out fairly satisfactorily. Next—and this was more important in scarlet fever than in typhoid—there should be no communication between the nurse and any occupant of the house. It was, however, only in a few houses that absolute isolation could be got, and his opinion was that all cases of epidemic disease should at once be removed to a hospital. Noticing the question of home disinfection, he said they had yet to teach the public, and he was afraid the profession also, much. After a patient was convalescent, the floor, walls, ceiling, and the other solid articles in the room, should be washed with a disinfectant solution, the paper, if any, being removed and burned, and the ceiling whitewashed. The bed, blankets, and personal articles of clothing, should be disinfected in the steam disinfecting apparatus, and then washed. The room should then be thoroughly disinfected for a week before being occupied; and in his experience, which was now very large, those measures were always sufficient to prevent the spread of the contagion. Within the last five years he had attended over 1,500 cases of epidemic disease, and he had never been unsuccessful in preventing the spread of the disease from the patient after his attendance had begun, and so soon as his instructions were carried out thoroughly.

THE EFFECTS OF DISINFECTION AND ISOLATION IN THE CONTROL OF EPIDEMICS.

Dr. WM. SQUIRE contributed a paper on the above subject, and in his absence it was read by Mr. EASTES. The author stated that within the last twenty years only, or since the last meeting of this association at Leeds, we had had such means of isolating the sick in the more common epidemics as to enable a judgment to be formed of the success obtained, and of the parts due to each of various sanitary measures in producing it. The good effects of better drainage and pure water had been established, not only in the prevention of enteric fever, but in the diminution of phthisical disease, and some sanitarians were hopeful that epidemics of the more obviously infective fevers would be abated. This hope soon proved fallacious; even infections such as relapsing fever and typhus, thought to be the associates of filth and famine, reappeared in England very shortly, and in London a hospital for the isolation of relapsing fever was, in 1870, opened at Hampstead; more than 200 cases were received, and the disease rapidly disappeared from amongst us. In this same year, 1870, smallpox, spread by the Franco-German war, raised the fatality of this disease in London to 972, and in 1871 to 7,912, from what was then thought the low figure of 275 in 1869; only once, in 1857, had it been below 200. This sudden increase of smallpox occurred at the end of 1870, and from that time dates the permanent provision made by the Metropolitan Asylums Board for the isolation of infectious fevers; in two months 582 cases of small-pox were received into the board's hospitals, and during the next twelve months 13,145 were thus isolated; even then not half the fatal cases had been patients in these hospitals, but next year only one in nine of all the deaths from small-pox in London occurred out of the Asylums Board Hospitals. At length the means of isolations were adequate to the proportion of the epidemic, and the mortality from small-pox was reduced to 57 and to 26 for the two years 1874-5, or one-fifth of any previous minimum. This was before the ships were utilised as small-pox hospitals, and the reduction was not for one year only as heretofore.

Typhus, in the same way, after 1,071 cases had been isolated by these hospitals; was reduced in 1875 to 65 cases; in 1880 to 28 cases; in 1886 to 10 cases, and last year to one only, though twice in those ten years a tendency to increase had been observed. In those instances, and and in those from enteric and scarlet fevers to be noticed, isolation is not the only factor concerned. Disinfection has a large share in the control over the spread of those epidemics. The disinfection of premises, rooms, and clothes, which follows upon the removal of the sick, often prevents other cases arising from the same source, while the removal of the patient for the whole period of infection is a more efficient safeguard against its spread than any amount of soap and water or external disinfectant could possibly be. It may here be observed that the provision of mean of isolation by sanitary authorities and securing facilities for all classes to avail themselves of such means is equal to, and often more than equal to, any scheme for the registration of infectious illness, or for the notifying the outbreak of infectious diseases in large communities. Both means should be in force, but it is useless to give notice of the presence of infection unless means of isolation are provided and insisted on; no method of disinfection will succeed unless those who have been exposed to infection are kept from mixing with others, at school or elsewhere, until they are known to have escaped it, and those who have been attacked are kept from mixing with the susceptible until the infection period is over. Scarlet fever, against which we have no vaccinal defence, is specially in need of extended means of isolation; yet, until five years ago, before Miss Mary Wardell's home, we had no convalescent place for scarlet-fever patients, and the fever hospital at Islington could take but few of the numerous acute cases always occurring aronnd us. The Asylums Board Hospitals took in a gradually increasing number, but under many restrictions, and it was not until the epidemic of 1887 that more adequate provision was made. In the last quarter of 1887 close upon 3,000 cases of scarlet fever were treated in these hospitals, with a mortality of 257, or more than two-thirds of all the deaths in London from the epidemic in this the highest period of its activity; in this year 5,900 cases were treated in these hospitals, and 4,408 last year, all the convalescents being detained during the infectious period. Diphtheria is now dealt with in the same law. Consequently, in this 1887 epidemic, scarlet fever in London was less fatal than in many non-epidemic years, and so completely was it arrested that for the first time since registration began no autumnal increase of it occurred with us at the end of last year.

Dr. UNDERHILL read a paper by Dr. E. W. HOPE (Liverpool) dealing with the value of isolation. A number of instances were given showing that neglect to take proper measures for the isolation of persons suffering from infectious diseases led to serious consequences.

THE MANAGEMENT OF INFECTIOUS DISEASE IN HOTELS.

Dr. C. H. ALLFREY (St. Mary Cray) gave an account of the manner in which he dealt with an outbreak of scarlatina in an hotel at Grasse, near Cannes. Assuming the sequence of events to be as he explained, Dr. Allfrey laid stress on the importance of extreme caution in giving advice as to the infection from mild cases, holding that it is only safe to treat all cases, however mild and whatever their stage, as equally infectious, believing that infection depended more on the susceptibility of the patient and on the degree and circumstances of the exposure that on the severity or stage of the infecting case. He expressed an opinion that a second outbreak at the hotel would have been prevented altogether—certainly so far as the hotel was concerned—had the removal from the hotel of the whole of the infected family been insisted upon. He thought that the importance of adopting such a course upon similar occasions should be impressed upon all hotel-keepers. He advocated the formation of an association of hotel-keepers to ensure the sanitary well-being of hotels, having for its principal objects —(1) an agreement to insist upon the removal from their hotels (as soon as practicable and convenient with the safety of individuals) of all members of an infected family; (2) an agreement, as suggested by Dr. Burney Yeo, to require the signature of all visitors to a declaration that none of the party have been suffering from or, to their knowledge, exposed to infection within a certain period; (3) the establishment of a registrar of sanitarily certified hotels. The speaker advocated warmly the non-concealment of the occurrence of infectious cases, both as a matter of justice to the visitors and as a matter of policy to the proprietors. He believed that visitors in a hotel where existence of infectious disease was known, and where they could see that precautions were taken, and gauge the degree of danger, were, in point of fact, safer than in chance hotels, where cases of infectious disease might be concealed.

Dr. C. F. HUTCHINSON (Scarborough and Monte Carlo) said that he had charge of the epidemic of scarlet fever during the past winter at Monte Carlo. From the experience he then had he was convinced that the present way of disinfecting rooms after scarlet fever was absolutely useless. He could not guarantee that a room so treated was safe. There was no satisfactory way of dealing with scarlet fever except isolation in another building.

Dr. ASTON who said he had been medical superintendent of a hydropathic establishment for five years, suggested that in England no public establishment should be allowed to receive children as visitors unless they had satisfied the sanitary authorities that they were in a position to deal with an outbreak of infectious disease.

Dr. LITTLEJOHN (Edinburgh) remarked that one villa would be no use for the purpose of isolation. There would have to be several villas —one for scarlet fever, one for typhoid, and so on. There should be in connection with every centre of population an epidemic hospital. It should not, however, simply provide accommodation for the ordinary working-class portion of the community. There should be special accommodation for the well-to-do, with a seperate nursing establishment for them should be choose. In Edinburgh they lived on their visitors, and an epidemic in the hotels would have disastrous results. Special provision was made in the hospital for members of the upper classes, and they had Professors of the Univerity and Judges sending their families to it when they were attacked with infectious diseases. They could there be attended by their own medical man. (Hear, hear.) He was of opinion that there should be a room in connection with every hotel into which a visitor exhibiting signs of having contracted an infectious disease might be placed for observation or until a removal to the hospital could be affected. In Edinburgh they had compulsory removal and nortification in connection with infectious diseases. The hotel and lodging-house keepers favoured the system. It might be asked, Did not this interfere with the *amour propre* of the medical profession? Nothing of the kind. If the system had not proved satisfactory they would have heard of it long ago.

Mr. LOE (Leeds) said for some time he had been on the Sanitary Committee of the Leeds Corporation, and it had been his desire that there should be compulsary notification of infectious diseases in the borough. They had not, however, yet succeeded in getting it. His idea was that the duty of giving the notification should not rest with the medical man, but with the head of the family. He was satisfied that without notification isolation would be useless. As regards open drains in our towns, he said that in Leeds, with few exceptions, the drains were open. He was of opinion that drains should be closed. Ventilating shafts might be taken up the outside of buildings. He had known several cases of typhoid fever arising from open drainage. He should be glad to hear a strong expression of opinion in regard to compulsory notification from that meeting.

The PRESIDENT though they had better not go beyond the four corners of the subject they were discussing.

Dr. OGILVIE GRANT (Inverness) having made a few remarks,

Dr. GREENWOOD (London) said he had often wondered why the gullies in the metropolis had carbolic powder sprinkled over them. He supposed it was simply done to pander to the ignorance of the public. He had looked out for the same sort of thing in Leeds, and he owned with great satisfaction that he had seen none of it. He did not know whether it was because the rain had washed the powder away.

Dr. WHITELEGGE (Nottingham) remarked that small-pox could be crushed out by isolation, and scarlet fever could be got rid of very similarly. But he did not see how they were going to deal with measles satisfactorily in the same way. It was a delusion to imagine that they would have notification of all cases in which no medical man was called in. They would only get information of about a third or a quarter.

Dr. EASTES spoke in favour of isolation. He had had an experience in the parish of Paddington lasting over twenty years. Formerly diseases of an infectious kind were much commoner than they were now. It was almost impossible to isolate cases which occurred in rich families twenty years ago. Now, however, the case was different, and families were often only too glad for infected members to be sent away. During the last two years he had sent away members of large families, with the result that in no case had another member of those families contracted the disease.

Dr. HIRST (Prestwich) urged the necessity for the sanitary authorities in country districts having the power to remove patients to the hospitals.

Dr. MACLAURIN (New South Wales) said that the colony he came from had compulsory notification of smallpox both from the medical attendant and from the householder, sactioned by a heavy fine. When the disease was notified the Government authorities sent a man to relieve the practitioner of the care of the patient. The Government also insisted not only on the removal of the sufferer, but of every one who might have been brought into contact with the sick person.

Dr. EASTES.—The doctor as well?

Dr. MACLAURIN said that in one case the doctor was removed, but he was well compensated, as he received a fee of £3,000. That was many years ago. The isolation was continued until it waa thought there was no possible chance of the disease being spread. Although a large proportion of the population had not been vaccinated, smallpox was practically stamped out of the colony by the adoption of those measures.

Subsequently a small committee, which was appointed to draft a resolution embodying the views of these present about the treatment of outbreaks of infectious diseases in hotels, brought forward the following, which was moved by Dr. LITTLEJOHN and seconded by Dr. ALLFREY:—

That this meeting of the Public Health Section of the Brittish Medical Association recommends the formation by all keepers of hotels, hydropathic establishments, and boarding-houses in a town (or other convenient district) of an association for the mutual sanitary protection of themselves and visitors.

That this association should have for its principal objects—

(1) An agreement to insist upon the removal (as soon as possible, when consistent with safety) of all members of an infected family.

(2) An agreement to require the signature of every visitor to a declaration that none of his or her party has recently been suffering from any infectious disease, or has to his or her knowledge been exposed to infection.

(3) The establishment of a register of hotels certified to be in a perfect sanitary condition.

The section recommends that such certificates, which must be approved by the local sanitary authority, should be renewed annually after inspection, and that they should be exposed in a prominent position in every hotel and hydropathic establishment.

The section also recommends such a combination of hotel-keepers, that in towns where no sufficient provision for such purposes exists, they should themselves provide, either jointly or separately, a detached building for the isolation of infectious or double cases.

The resolution was carried unanimously, and it was further decided that it should be submitted to the general meeting for conformation.

THE TREATMENT AND DISPOSAL OF TOWN REFUSE.

Dr. GREENWOOD, of London, then read a paper on "Dusting in our Large Towns. He referred to the importance from a public point of view of an inquiry as to whether the methods of dusting now in use in our large towns were the best possible under existing circumstances; whether they could be indefinitely continued in the future, and what system would be the best to adopt (*a*) from a sanitary, (*b*) from an economic one. He noticed the evils arising from allowing putrescible waste to be stored in the midst of large towns, and the probability of a diminution of the death-rate consequent on a more rapid removal of house refuse. Reference was made to the advantages of the pail system, and to the necessity of covered vehicles for the removal of refuse. With regard to the disposal of refuse, it was here, he remarked, that they encountered their chief difficulties; it was here that the dictates of sanitary science and the dictates of economy seemed to be most hopelessly at variance. The refuse might be divided into the street sweepings and the house refuse. The proper place for the former would seem to be the soil, as it must contain considerable manurial properties; but as the value of this depends largely on the character of the road surfaces from which it was taken, very little profit at the present time seems to be attainable by its disposal, although from a sanitary point of view its admixture with the soil would be fraught with very little danger. With regard to the latter—viz., the house refuse—it was quite another matter. This had little, if any, manurial value. It was impossible to find a market for it in its crude state; and up to the present the dominating idea of Local Boards had been to get rid of it in the cheapest manner, frequently with utter disregard to the question of public sanitation. Shoots had been acquired, in many instances in improper situations, and refuse had been accumulated in sites that in a few years were notoriously to be built upon under the very noses of the sanitary authorities, and sometimes despite the complaints of ratepayers in the vicinity. The evils arising from houses built on made soil of this description were too well known to need comment, especially when they considered the character of much of the building of the present day, and the rarity of any attempt being made to guard against these dangers by concrete foundations. In the suburbs of the metropolis many houses had been built on such soil, and the health of the inhabitants must have suffered correspondingly. He knew of one house where swarms of flies used to rise up annually from the basement, and this might be pointed out as a tolerably good illustration of the organic purity of the subsoil. Similar evils are constantly occurring in the vicinity of all rapidly increasing towns, and it seemed to him that sanitarians should condemn and use every means in their power to prevent this contamination of the subsoil. Science pointed unmistakably to cremation as the only likely solution of the problem as to the disposal of their dead—a question which every year became more urgent, and which a future generation would be compelled to deal with; and none the less surely did it indicate, in his opinion, that the destruction by fire of their organic refuse was the best method of destroying its noxious properties, and rendering the after disposal of the products of combustion at least a harmless procedure from a sanitary point of view. Economically, it was probably at present more costly than the old rough-and-ready method of shooting the refuse in any hole or corner that could be cheaply acquired, regardless of the welfare of others; but this cheapness was by no means so certain now-a-days, when sanitary authorities were beginning to wake up to their duties, and when injunctions and legal proceedings on the part of aggrieved townships and individuals were apt to make a considerable hole in the profits that a not too scrupulous contractor might have been netting by improper disposal of refuse. As to the possibility of gaining pecuniary profit from their refuse disposal, that, he thought, got less every year. Summing up, he remarked that the present system of dusting was a faulty one, and not suitable for continuance; that in the present state of their knowledge a small portable receptacle ought to be substituted for the present large and immovable dust-bin, and that the refuse should be daily, or at very short intervals, collected, so that no accumulation be allowed near the houses of the people. The frequent practice of carrying the refuse through the public thoroughfares in open carts was greatly to be condemned, and the employment of covered vehicles for this purpose should be rigidly insisted upon. Lastly, with regard to the disposal, the whole of it, with the exception, perhaps, of some of the street sweepings, should be carbonised as a preliminary to its ultimate disposal, in order to destroy matters likely to give rise to future sanitary evils; and the present shooting into ground adjoining towns which were likely to be built upon at a not distant future was a practice much to be deprecated, as being fraught with considerable public danger.

Mr. J. BRINDLEY JAMES followed with a paper in which he dwelt upon—(1) The importance of rendering contamination of the surrounding soil by sewers impossible. (2) A chemical system of treatment and utilisation as manure of all slops, excreta, etc., with exception. (3) The contamination of all rivers, streams, wells, etc., prevented. (4) The total suppression of cesspools, and the prohibition by law of their construction. (5) Each householder to be compelled to burn his own vegetable refuse, and provided with dust-pails for periodical removal (as enforced in Bermondsey). (6) Last, but not least, the construction of a parish crematorium for the reduction to ashes, utilisable in themselves, of all refuse otherwise perplexing to dispose of. Fire purifies everything, and this system, easily rendered innocuous to those employed in it, would confer an incalculable amount of hygienic benefit on the public at large, whose adoption of the same cannot be too zealously invited.

In a paper upon "The Collection and Disposal of Refuse in Smaller Towns" (which was read by Dr. Eastes),

Dr. E. SLADE-KING (Medical Officer of Health for Great Torrington,

Ilfracombe, and Dulverton) said that the waste products of man's domestic life part themselves for sanitary purposes into two great divisions: (1) sewage, including all excretal and liquid waste; (2) house-refuse, composed of the more solid matters cast away as useless from human habitations, and of the waste materials resulting from the smaller trades and manufactures. House-refuse demanded the consideration of the sanitarian in three stages—namely, in its formation in and around houses; in its collection and removal; in its treatment and ultimate disposal. As to its formation or accumulation, cupboards, ashpits, and dustholes were condemned as unfit; and the use was advocated of galvanised metal vessels, casks, or boxes, coated with some non-absorbent material, light in weight, fitted with covers. The collection and removal should be done early in the forenoon, at intervals never exceeding four days, by the scavenger, who empties the contents of the ash-boxes one after another into his cart. Certain precautions were necessary to ensure that each householder does his duty by putting out the refuse in time for the collection. As to the treatment and disposal of house refuse, fire seemed the only effectual agent which could be employed for its purification and practical destruction.

THE PUBLIC CLEANSING OF TOWNS, VIEWED IN RELATION TO PUBLIC HEALTH.

Mr. D. Edgar Flinn, Examiner in Public Health, Royal College of Surgeons, Ireland, in the course of a paper on this subject, remarked that public cleansing is so very closely allied to public health that it is evidently one of the principal duties that urban and rural sanitary authorities should insist upon being systematically and properly carried out, for upon its efficient administration depends, to a great extent, the general health and well-being of a community. It is urgently incumbent on the authorities of each town and district to solve this important problem for themselves, and to find out how best to carry out this all-important work. The water-supply, the method of sewerage, and the habits of the population, are each and all of them more or less determining factors in the carrying out of a particular plan. No system of town cleansing can be maintained, or efficiently worked, unless it be undertaken by the sanitary authority; for, according as towns grow and dwellings increase, so much more difficult does it become for individual householders to dispose of their refuse. The immediate removal of all refuse and filth is the most essential element in the public cleansing of towns. Even to deposit refuse temporarily on the ground is dangerous, as the atmosphere of the dwelling-house is very much affected by the state of the atmosphere of the soil near it. If the soil near dwellings is allowed to become impregnated with refuse and filth, which is so often cast out of houses of the tenement order, the air must naturally become polluted, and will carry the germs of many diseases to houses at a distance. Public cleansing, then, cannot be too strictly enforced, and its thorough administration becomes year after year more apparent and more necessary for the health of the people and the prevention of disease. The daily door-to-door collection at a stated early hour each morning, by means of dustbins large enough to contain the dry refuse collected during the twenty-four hours is a system working well in a large number of towns, and is becoming generally adopted. It is certainly a vast improvement on the system of emptying all house refuse into an ashpit, in close proximity very often to the dwelling-house, where a fermenting mixture of excreta, vegetable refuse, and dust, is permitted to remain for a long period, creating a public nuisance and a danger to the health of a neighbourhood. The portable pail collection of house refuse should be enforced by every sanitary authority, and each householder should be supplied with these bins, a slight charge being made in the case of houses above a certain rating, and the poorer class of houses being supplied with them free of cost. Nearly all our great epidemics have their origin in the laneways, courtyards, and alleys of the towns, and these are the localities where cleanliness and daily scavenging should be systematically carried out. The cleansing of towns has a marked determining effect on the death-rate of a population, and it is notorious that wherever a regular and systematic method of cleansing is carried out, the rate of mortality is always comparatively low, and diseases of epidemic character are rare. To aid in the fulfilment of the benefits to be derived from public cleansing, the domestic cleansing of the houses of the people is a necessary adjunct, and they should be taught that the initial principles of sanitary work must commence in the individual house. The destruction of the first germs of disease is of the utmost importance, and it is to the homes of those resident in the courts and laneways of our cities and towns that the lesson should be taught that national health lies in the individual cleanliness and surroundings of the house and its inmates.

The last paper read was by

Dr. C. F. Moore (Dublin), who said that the disposal of town refuse and excremental matter has, since the visitations of epidemic cholera in 1854-66, and previously in 1849, occupied a prominent place in public medicine. He drew attention to the endeavours which had been made in this direction, the subject having become one of great importance by reason of the great increase of town populations within the present century. The subject embraced the great main-drainage system, the removal and utilisation or destruction of town refuse, and the treatment and disposal of excremental matter by other methods than that of sewers. The great objects of the latter is the disposal, without creating a nuisance or injury to the public health, of excremental matter in such a way, if possible, as to fertilise the ground. One great difficulty in carrying out the disposal of excremental matter by other means than by a system of sewers in many parts of these countries appears to be the absence of a class of persons who will faithfully discharge the duty in a thorough and effective manner. The Chinese and Japanese afforded examples of this mode of treatment of such matters of great antiquity and effectiveness.

In the course of the discussion which followed the reading of the papers,

Dr. Parsons said that stress had been laid upon the proper treatment of town dust. The observations were much more forcible when they had to deal with household dust mixed with excreta, as was often the case in northern towns. It was necessary that there should be an improved system of dealing with this refuse, in place of the midden, which held such a prominent place in the affections of some Yorkshire sanitary authorities. The collection of dust should be done on a regular plan. The cart should go round the district at known times, the dust being ready for removal in small water-tight receptacles, which ought to be emptied there and then. This would do away with the horrible plan of repeated shovelling up. It was not necessary, where middens were used, that they should be made large enough for a man to get inside. The London dust-bins were not. The bottom might be made to slope, so that the contents could be got out by using a long-handled tool.

The President said that he knew of no subject which could be more profitably discussed in Yorkshire than the disposal of town refuse.

Mr. Jessop (London) thought it would be well if they could make the householders responsible for the due removal of refuse.

Dr. Cameron (Medical Officer of Health, Huddersfield) did not think they had any right to insist upon householders telling the authorities when they ought to remove the dust. In every town there ought to be such a system in force that the dust bins were cleared before they became filled. There was, however, one way in which a householder could give considerable assistance to the authorities. It was by reducing the amount of material that was placed in the dust bin. In his own home he insisted upon all vegetable and animal refuse being placed at the back of the kitchen fire at night to dry, and then in the morning it was raked on to the fire and cremated. In that way and by the use of Mr. T. Pridgin Teale's economisers a wonderful revolution had been brought about in the quantity of material thrown into the dust bin. The typical plan of getting rid of the refuse would be to have it collected every day and taken away at once. It could not always be managed, but they should try and get as near to that ideal as possible. He should like to carry out a proper water-carriage system in regard to night-soil in Huddersfield. He hoped to have it in time.

Dr. Littlejohn said that the water-carriage system was followed to a large extent in Edinburgh. They had also the daily removal. He should like it to go forth from that section that it was high time that middens were done away with. They might do what they liked, but if vegetable refuse and other kinds of organic matter got into the dust bins, it would undergo a slow process of decomposition. The only remedy was a daily remedy; and if they could carry it out where there was a population of 260,000, they surely ought to be able to manage it in Leeds. In Edinburgh the removal was made once a day from the better-class houses, and twice a day from those of the poorer classes. The difficulties were no doubt increased when they came to sparsely populated districts. The trench system seemed to him to solve the difficulty. In all the small villages in Scotland they did their best to introduce the daily removal plan.

After further discussion, a committee was appointed in order that a resolution dealing with the subject of town refuse may be submitted to the section this morning before other business is proceeded with.

THE ANNUAL MUSEUM.

[LEEDS MEETING.]

There is always a difficulty in obtaining a room large enough to hold a number of exhibits, and near enough to the general meeting place. The annual museum is the general rendezvous. The room at Leeds was in an excellent position; but, unfortunately, it was not very large, so that the exhibits were not seen to the best advantage. The first

section—devoted to instruments, foods, etc.—was in the large hall in the Mechanics, and on opening the door the first stall that presented itself was that of **Messrs. G. & G. Stern,** who had on view all their pumiline preparations. The air around the stall was scented with the well-known essence. We may briefly allude to a few of the forms in which pumiline was exhibited.

1. **Pumiline Ointment.**—This at once attracted attention by its smooth and homogenous surface, promising to form a bland and soothing application for eczema, erythema, and for all inflamed and irritating surfaces. We learnt from Mr. Stern that the pumiline is combined with oleate of zinc, paraffin, and then thoroughly incorporated with lanoline, and that it has been thoroughly tested by some of the best dermatologists, who have reported very favourably on the results obtained from it.

2. **Pumiline Jujubes.**—These are tonic and astringent, of agreeable flavour.

3. **Pumiline Plaster.**—Messrs. St. Dalmas, Leicester, have prepared these plasters with 15 per cent. of the extract, and they form an excellent medium for applying the remedy. The pumilio pine, especially that growing in the Alpine districts, where the tree is stunted, possesses medicinal virtues, which have been admirably utilised by medical men at various continental spas. The finest essential oil is obtained from the most stunted variety, and it is to this oil which Messrs. G. and G. Stern have given the fanciful name of pumiline, and from which they make many of their preparations. The pumiline essence is a distillate obtained from the needles of *pinus pumilio*, and may be used in various ways by inhalation, embrocation, in the form of gargle, given internally in doses of two or three drops. The extract is obtained from the needles, and young shoots of the pine, and may be employed in the treatment of rheumatism and gout. Terebinthanates are too well known to need much elaboration at our hands. Amongst the purest of the pine products we must reckon the pumiline group.

Jeyes' Disinfectants.—We have for some years been accustomed to the use of Jeyes' disinfectant at the Halifax Borough Hospital, and we are perfectly convinced that it is an admirable disinfectant. We have used it in the various forms of soap, fluid, etc.

Sanitas Co.—Sanitas and Jeyes were close together. We have so recently alluded to the properties of the disinfecting preparations made by the Sanitas Company, that we need not repeat the opinion we have expressed on the value of the Sanitas preparations.

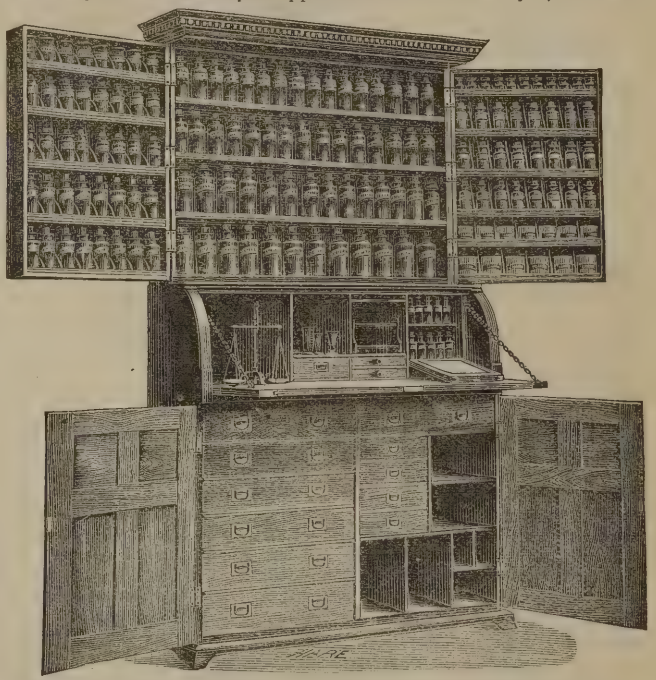
Hockin, Wilson & Co.—This stall was admirably arranged, and the instruments and drugs showed up well from the red plush background. We were particularly struck with the catheters, made from the best Belfast linen, which for finish and pliability are fit to compare with the best French catheters. These catheters are now extensively used, and give great satisfaction for their durability. The pharmaceutical preparations of Messrs. Hockin, Wilson and Co., included their well-known podophyllin compounds. These have now an established reputation, and are particularly serviceable for home dispensing, as they form in combination—owing to their ready miscibility—bright and pleasing mixtures of podophyllin, in combination with pepsine, belladonna, and strychnia. The other exhibits of Hockin, Wilson and Co., included a number of the usual surgical instruments carried by the practitioner, all of which were of excellent workmanship.

Hoff's Malt Extract.—The Hamburg malt extract is one of the oldest forms of the valuable preparations of malt, now so extensively used for the dieting of patients, and Messrs. Hoff are well-known exhibitors at the annual museum. Their samples are freely distributed, and this year he gave to all who visited a very handsome blotting pad and a small card case, and to ladies who showed an interest in their extract a very ingenious needle case. The extract is admirably suited for invalids who cannot take the thick malt extracts made by other firms. It is pleasant, invigorating, reconstituent, and well deserves the reputation it has acquired under the name of the Hamburgh Brand.

Champagne in Syphons.—Messrs. Carswell and Co., 32a, Piccadilly, London, had a novel method of bottling champagne, and their exhibit attracted a crowd of visitors. Champagne is very frequently ordered for the sick, but in the ordinary bottles there is not only great waste, but the wine loses in flavour and potency when once opened, no matter what form of contrivance we use. Messrs. Carswell have overcome the difficulty by putting up the champagne in syphons. This has been achieved after a series of experiments, and by using fittings capable of resisting acids. The syphon bottle is of the usual shape, but the metal fittings are coated with gold and silver, so that the wine is not in any way affected by contact. The advantages of the new system are very great; there is absolutely no waste. A glass of fresh champagne can be drawn at any moment, and the last glass comes out with as foaming a head as the first. The wine selected for bottling is a very dry brand of Camisole & Cie, of Epernay. It is a good, sound champagne, of excellent flavour and of reasonable price. The syphon was exhibited in a small casket, packed with ice, so that for the sick room it can be kept cool. We anticipate a very wide use for this system, not only for the purposes of the sick, but at clubs and refreshment rooms.

The Universal Digestive Tea Company.—From champagne to tea is a transition; but tea is so universally used, and some teas are so injurious, that it is well worth the attention of the medical men to know of a tea which can be recommended. It is well known that nervousness and indigestion are produced by the use as well as the abuse of tea. Most teas contain an excess of tannin, and we believe that to the tannin is to be attributed the injurious effects on digestion. The Universal Digestive Tea is a blend of India, China, and Ceylon teas, but by a patent process the tannin is rendered inactive. The tea has a delicate, pleasant, aromatic flavour, without any roughness; and it appears to us that this innocent beverage may be still more widely used, now that they have a tea which can be recommended as being free from any injurious properties.

John Richardson & Co., Friar-lane, Leicester—The Dispensing Cabinet.—This cabinet is certainly the most comprehensive, complete, and handsomest cabinet in the market. Constructed of best polished walnut, and made in the very best style, it is a handsome article of furniture. Its compartments are admirably devised, holding numerous bottles of various sizes, with drawers and divisions for almost everything that is required in the art of dispensing. Our first impression was that it was really too good, and that owing to its price would be out of the reach of many practitioners, but we learned subsequently that cheaper ones, of identical construction, could also be obtained, manufactured of polished pitch pine or stained deal, particulars whereof can always be obtained upon application. Unfortunately space could



not be given to it in the room devoted to pharmaceutical specialities, and it was separated from Messrs. Richardson's exhibit, which included nearly all their well-known preparations. Their colonists' chests and small medical field companions, fitted up with every requisite, attracted considerable attention, and were much admired. There were a large number of fitted cases suitable for practitioners in country practice, and by means of compressed drugs and pills these cases were made to hold a large number of medicines. The pearl-coated pills formed an attractive feature of this stall, and were to be seen in every conceivable form, shape, and colour. The Cascara Sagrada Lozenges are admirably suited to those who do not like any bitter medicine. The thymol preparations and soap are now standard specialities, and are gaining popularity. The same may be said of Richardson's other specialities, as exorrhoid, etc. We need not enter into further details as to the names of the specialities for which this firm is noted.

Brand & Co.—The dietetic specialities of this firm are very firmly established in the confidence of the profession. Their beef essences, jellies, bouillons, lozenges, biscuits, enable us to keep our patients alive when no other form of food can be taken. The Brand preparations are prepared with the greatest care in the selection of the animals from which the extracts, etc., are made, so that we can confidently recommend them to our patients.

The Sanitary Wood Wool Company.—Hartman's patent wood-wool wadding has for some time been before the profession, and is used in all the leading hospitals in the United Kingdom. Many improved forms have been introduced, aud we direct particular attention to the wood-wool sheets intended for confinements, etc., and to their wood-wool diapers and napkins for infants.

John Milne.—The antiseptic dressings introduced by this firm—the red cross brand—have now obtained a well-deserved position. The great development which has taken place in consequence of Listerism is largely due to Mr. Milne, and we are certainly indebted to him for the beautiful fabrics in which he now conveys to us the various forms of dressing. We have but to look at the long list of antiseptic dressings advertised by Mr. Milne to see the rich variety at our selection. The Alembroth dressings are an instance of the progress which has been made. Boracic acid dressings appear to be coming into more steady use. Surgeon-Major Burke has devised a first field dressing, which will be found extremely useful, the materials of which are supplied from the antiseptic dressing factory of Mr. Milne. We would direct attention to Mr. Milne's illustrated price list.

Messrs. Robertson & Co., Operative Chemists, 35, George-street, Edinburgh, had a much more extensive exhibition of their specialities than at the Glasgow Exhibition. This firm is evidently developing a very large capsule business, and judging from the quality of what was shown, they well deserve the success that is attending them. They showed a most complete range of their flexible gelatine capsules. As at Glasgow, they have a large display of ferruginous pill mass (Blaud's), and combined with extracts of nux vomica, aloes, and with arsenic, digitalin, and a variety of other powerful medicines. These iron capsules were originated by them, and there can be no doubt but that the principle for which they have obtained letters patent is a most valuable one. It consists in suspending the ingredients of Blaud's pill mass (alkali and ferrous iron) so that no reaction takes place until the capsules reach the contents of the stomach. In this way they exhibit *nascent ferrous carbonate* in definite doses, so that the weakest stomach can most surely assimilate the iron. Despite the fact that so much soluble iron is presented, there is no tendency to nauseate patients, for the consistence of the material of the excipient allows of gradual ingestion only. They are shown in perfect condition, the manufacturers having overcome the tendency to form a little ferrous carbonate between the surface of the capsule contents and the gelatinous envelope which their earlier samples showed. In consonance with the enterprising business activity which is a characteristic of this firm, they showed a "new departure" with the P.B. pills. In this they had put up in an elegant capsular form the different formulæ given in the B.P., claiming their entire, ready, and certain solubility. On their stand was to be found a display of well-prepared granular preparations, containing, amongst others, phenacetine, sulphonal, antifebrine, bismuth and pepsin, antipyrine, and hydrobromate of caffeine. They make a speciality of the compression of perchloride of mercury. These were shown in pellets of three strengths—No. 1, No. 2, and No. 3—one dissolved in a pint of water forming a solution of 1 in 3000, 1 in 1500, and 1 in 1000 respectively. It is needless to say that, viewed either from a pharmaceutical or medical standpoint, these pellets are not only definite, but very convenient in obstetric practice. We should say that the busy practitioner would find them invaluable. Of the other preparations we were most attracted by a concentration prepared from the bark of quillaya saponaria, which is called "equaloid quillaya sapon." A combination of ferrous iodide with the hydriodates of quinine and strychnine as a sweetened preparation, "syrup hydriod. co.," has been prepared by them for many years, and we believe is now very extensively prescribed. It appears not only a most elegant, but a most excellent and useful combination.

The Maltine Manufacturing Co. deserves a fuller notice, but space prevents. Their Maltine is an admirable extract of malted cereals, of the diastasic powers of which we have often had occasion to speak highly. Mixed with cod-liver oil, it disguises the fishy taste and smell. Maltine is also prepared in combination with lime, phosphates, Easton's syrup, phosphorus, etc., so that it is possible to obtain the nutritive and digestive properties of the malt while administering other forms of nourishment and special medicaments.

The Santha Tea Company was well patronised during the afternoon, when visitors had an opportunity of partaking of the cup that cheers, etc., made from a specially prepared extract, in which the tannin is neutralised and rendered innocuous.

Dahl's Agency.—At this stall were seen the well-known Dahl's Dyspepsia Cakes, made from the layers of various cereals, indicated in cases of constipation and indigestion. There were also shown cakes powdered, for delicate cases and for children. They also showed Larentzen's Cream and Malt Extract, prepared from the richest cream and the finest extract of malt. It is very palatable and easily digested, and forms a very good nourishing food for children. A new disinfectant, Thanelene, which combines all the qualities of the best antiseptic and disinfecting agents, is also put forth in two forms, in powder and fluid.

W. E. Sacker & Co.—At this stall there was a very large selection of hypodermic cases, hypodermic solutions, pressed pellets, tablets, etc. We were very pleased with the medicinal capsules, which were neatly and elegantly made, and which are a pleasant method of administering nauseous drugs, as copaiba, etc. Messrs. Sacker are the agents for the nutritive suppositories of Griffin, of Bath. These suppositories are made in the form of a cone, and weigh about two drachms. Each cone is equal to three ounces of peptonized beef tea. They are very carefully prepared, and will keep a reasonable time. We have found them of very great service in some critical cases. The number to be used to depend on the nature of the case, and vary from four to six a day.

Christy, Thomas, & Co., 25, Lime-street, London.—We are always sure to find at Messrs. Christy's exhibit something out of the common, as this firm makes a speciality of bringing into use from almost every clime medicinal plants, and they encourage the study of their uses. Here we have schinos, imported from the East, which is said to be stimulating, invigorating, and revivifying; Holarrhena bark, siegesbeckia, sagapeuum, burra gokeroon, jambul, etc. Apart from these drugs Messrs. Christy are showing their well-known menthol cones, chaulmoogra oil, kola chocolate, and other preparations of kola, caffeine, papaine in powder, lozenges and pills, etc. In recent numbers we have alluded to the value of the new surgical tissue Christia, and to their coated spring bougies.

Viking Food and Essence Company.—This company puts up most of their products in glass jars, and this method appears to us to possess very great advantages. The foods look inviting, and the state of a jar can be readily seen by holding it to the light. Great care is taken in the selection of foods, and also with the hermetical closing of the lids. Here we had essence of beef, beef tea jelly, meat lozenges, real turtle soup, prepared from the West India turtle, turtle consommé, etc., all of which can be recommended for the invalid in cases where the appetite is fastidious or nutriment wanted.

Burroughs, Wellcome, & Co.—Dr. Ward Cousins, Portsmouth, has entrusted to Messrs. Burroughs his new and ingenious artificial ear drum. It is a very delicate little contrivance, somewhat in the shape of a Welsh hat with a high crown. It is made of compressed cotton wool, which is saturated with some aromatic oil; and a very ingenious little forceps for introduction and extraction accompanied the box. This drum will be found of use in many cases of deafness caused by perforation of the drum. Here was a large assortment of hyperdermic cases, tabloids, triturates, various preparations of eucalyptus, terebene, strophanthus, hazeline, and a full line of specialities of the firm. A speciality was made of hazeline ointment. In the small room was shown the Kepler malt extract and Fellows' syrup of the hypophosphites, so well known for its invigorating properties. Messrs. Burroughs also showed a new system of ventilating buildings, at the same time charging them with any desired perfume. This process, we believe, is not patented; it acts well, can be readily controlled, and can be cheaply applied, especially in buildings where there is already an engine.

Allen & Hanbury's.—Messrs. Allen & Hanbury exhibited their bynin pepsine and liquid malt, byno pancreatin, byno hypophosphites, bynol, medicated lozenges, medicated pastilles; many new preparations, as their syrup of hydrodic acid, paraldehyde, phenacetin, sulphonal, salol. Their tasteless castor oil is so well known we need say very little about it.

Corbyn, Stacy & Co.—This well-known firm had an admirable display of the purest drugs, including very fine specimens of liquor cinchonæ rubra, liquor santal comp., liquor euonymin. Their new dry sparkling cocoa wine, which is free from any flavour of the drug, was very much appreciated. It is needless to say they had a number of new chemicals—antefebrin, hypnone, exalgine, etc.

Mr. G. Mellin exhibited samples of their well-known food for infants and invalids, a preparation of which, done according to Liebig's formulæ, can be well recommended. This food has a very large use. This year Mellin's exhibited vin de coca, emulsions of cod-liver oil and hypophosphites.

Messrs. G. Mason & Co.—The dietetic specialities of Messrs. Mason include essence of beef, veal, mutton, and chicken. This consists solely of the meat juices without water. Mason's concentrated beef tea contains the concentrated soluble constituents of the beef. We can strongly recommend their beef tea jelly, which can be eaten cold, and those who like a delicately-flavoured beef tea will find it in the O. K. bouillon.

C. J. Hewlett & Son.—We were able to inspect at Messrs. Hewlett's a few beautiful preparations of liquor ferri iodidi, liquor santal flav., and a mist. pepsin co. cum bismuth. They had also an excellent preparation in the form of a mist., called mist. tuss. rub. conc., which will be found very useful for dispensing purposes. Their exhibit was an exceedingly good one, consisting of all the new pharmaceutical products.

Reynolds, Branson, & Co., Leeds.—Messrs. Reynolds & Co. had a large diagram giving a synoptic table of the preparations included in the London Pharmacopœias, from nearly the earliest (1618) to the latest (1836), and in the British Pharmacopœias of 1867-1885. They had also a series of concentrated infusions, peculiarly representing the unchanged active principles of respective drugs.

Oppenheimer Bros. and Co. had a good show of their well-known liq. euonymi. et pepsin co., caulophyllin et pulsatillæ co., carnavena wine, a medicated wine containing the active principles of oats, meat, and coca.

Messrs. Seabury & Johnson had a display of pharmacopœal, medicinal, and surgical plasters, absorbent dressings, antiseptic and other surgical specialities. They also exhibited their new antiseptic germicide and preservative, "hydro-naphthol," and the various preparations therefrom for use in the practice of antiseptic surgery, and Seabury's compound sulphur candles for disinfection, etc.

Messrs. F. Newberry & Sons exhibited a collection of their sugar-coated pills, granules, and parvules. Their bromo soda, with caffein, is useful in cases of sleeplessness, in cases of over-study, brain work; and their effervescent hydro-bromate of caffeine has an important *rôle* in brain and nerve systems. Messrs. Newberry & Sons are the agents for Messrs. Warner & Co.

Woolley, James, Sons & Co., had a very large exhibit of standard medical preparations, as well as their own specialities, amongst which we may particularly mention akolethe, a solution of the sedative principles of opium, of the same strength as the official tincture—iso butyl nitris, for inhalation in cases of angina pectoris; liquor stypticus, suggested by Mr. Walter Whitehead, F.R.C.S. This is a balsamic solution of iodoform, and is used by Mr. Whitehead after the removal of the tongue to paint the floor of the mouth, and for injection in the early stages of carbuncle, bubo, etc. They had also some tannin discs, suggested by Mr. Lund, and Unna's plaster mulls.

Messrs. Carnrick & Co. exhibited, in connection with the Maltine Manufacturing Company, their beef peptonoids and soluble foods. The maltine products and compounds were exhibited in great variety.

Messrs. Loeflund & Co. showed their well-known pure hordeum malt extract, as well as combinations with lime, iron, pepsin, and hops. Their Alpine milk biscuits are well suited for children, as they contain 25 per cent. of peptonised milk substance, and 3 to 4 per cent. of phosphates. They are ready for use, only requiring the addition of boiling water. They have also a cream milk, which is prepared by a careful process of sterilisation, and which contains 10 per cent. of pure milk fat. Their Kindermilch is another infant food, claimed to be free from starch and cane sugar. Their factories are in the Bavarian Alps.

Chas. Green & Co., Tower Chambers, Moorgate, London, E.C., again had an attractive exhibit of their various preparations, which included their well-known permanent hypodermic solutions, together with a splendid assortment of hypodermic cases; corrosive sublimate (acidified) tablets for making antiseptic solutions to wash operators' hands, instruments, and other appliances, also for vaginal douche. Mr. Green explained to members the process of *upward percolation under pressure*, by which this firm make all their fluid extracts, and exhibited a working model of the percolator which is used in their laboratories. Their exhibit included beautifully-made specimens of gelatine flexible capsules, containing antifebrin, antipyrin, cascara, sandal wood oil, salol, sulphonal; Blaud's pill mass, and many other preparations which have a pharmaceutical interest.

SECTION B.

Section B. was devoted to pathological specimens, and in this Section were to be seen a number of specimens furnished by Mr. Atkinson, Dr. Barrs, Dr. Cathcart, Drs. Churton, Crocker, Drummond, T. Ward, Professors Griffith, Harris Thomas, Dr. Jacob, Mr. Jessop, Professor McGill, Dr. Thomas Morton, Dr. Bevan Rake. Dr. Bevan Rake's specimens illustrated the lesions of leprosy, and included:—1. Leprous tubercle from chin, and thickened median nerve. 2. Fingers, tubercular leprosy. 3. Fingers, tubercular leprosy. 4. Fingers, tubercular leprosy. 5. Finger, anæsthetic, leprosy, showing separation of bone. 6. Toes, anæsthetic leprosy, thickening and ulceration. 7. Toe, showing recent ulceration and old changes in nail (leprosy). 8. Anæsthetic toe (leprosy). 9. Hand, tubercles and contraction (leprosy). 10. Hand, anæsthetic leprosy, showing thickening and contraction, changes in nails, etc. 11. Toes, tubercle and ulceration (leprosy). 12. Toes, tubercle and ulceration (leprosy). 13. Leprotic kidney, showing cysts. 14. Leprotic kidney, changes and early cysts. 15. Larynx, early ulceration and thickening (leprosy). 16. Larynx, stages of ulceration and thickening (leprosy). 17. Larynx, ulceration and thickening (leprosy). 18. Larynx, old ulceration, thickening and deposit (leprosy). 19. Leprotic testis. 20. Leprotic spleen, tubercle, etc. (in glycerine jelly). 21. Ileum with Anchylostoma Duodenale attached.

The Yorkshire College had a very excellent series of specimens, arranged by Dr. Jacob, the curator, and by permission of the Council of the Royal College of Surgeons there was a choice selection of coloured portraits.

Mr. Jonathan Hutchinson also exhibited four portraits.

SECTION C.

This Section was devoted to anatomy and physiology, and the principal contributors were Professor Griffith, Dr. Oliver, Dr. Hellier, Professor Birch. Messrs. Newton and Co., London, and Messrs. Reynolds and Branson, Leeds, contributed a number of instruments used in pathological research.

Amongst the exhibits of Professor Griffith and Dr. Oliver were to be seen specimens and drawings from the Anatomical Department, most of which have been recently added to the collection. These included:—

Basin Specimens, as follows—1. Frozen vertical section of male pelvis. 2. Dissection of popliteal space. 3. Dissections of sole of foot.

Collection of Meckel's Diverticula.

Collection of Abnormal Arteries.—1. Right subclavian arising *last* from arch of aorta, and passing behind trachea and œsophagus. (Persistence of right posterior aortic root). 2. Origin of vertebral and inferior thyroid from aorta by a common trunk. 3. Abnormal renal arteries. 4. Obturator arising from deep epigastric. 5. Inferior thyroid passing behind vertebral. 6. Radial artery, represented by a large vas aberrens passing superficial to exterior tendons of thumb.

SECTION D.

INSTRUMENTS, BOOKS, ETC.

Arnold & Sons had a very large exhibition of surgical instruments for gynæcology, lithotrity, ovariotomy, etc. Amongst the most recent additions to their list are Green's new pad for fractured clavicle, Dr. Duke's new rapid uterine dilator, Foulerton's urethral injector, Sinclair's circumcision clamp, Pearse's membrane aspirator. The splints they exhibited under the name of Levis's patent metallic, possess great advantages. They are light, flexible, clean, and adaptable for every size and condition of limb. Dodd's practitioner's knife is an ingenious little instrument, as it contains six blades, with probe and director. They had a large number of Dr. Ward Cousins' inventions, but we must give a special space to a few of his contrivances.

Cousins, John Ward, M.D., Riversdale, Southsea.—Dr. Cousins, through Messrs. Reynolds and Branson, Leeds, showed a number of instruments. 1. A new evacuator for litholapaxy and other bladder operations, which has the merit of being rapid in operation, and not allowing the regurgitation of fragments. 2. A case suitable for army and navy surgeons, which deserves the application given to it by a Blackburn surgeon, of being a collection of "nice saws and modern instruments." The case consists of new surgical saws, spoons, chisels, gouges, and drills. It is a *multum in parvo*. 3. A new aural injector and evacuator. 4. A new Eustachian catheter, with hand-ball injector and evacuator.

Messrs. Down Brothers are noted makers of instruments suitable for special work. On this stall were to be seen eye instruments of the most perfect finish, laryngological models of the newest and most improved pattern, and all the armentaria suitable for every kind of special practice. Amongst the latest novelties we noticed a new osteotome, by Mr. Campbell Gowan; Basdon's chloride of ammonium inhaler; an electric light apparatus, with Kingsland's new patent accumulator. The breast pocket case suggested by Mr. Symonds, of Oxford, was a miniature portable case, and can be carried in the

breast pocket, and was an admirable specimen of neatness. Messrs. Down Brothers carried a full line of instruments suitable for general practice.

Gardner, J., Edinburgh, had a selection of useful surgical instruments.

Godfrey & Cooke.—Their patent chloride of ammonium inhaler is now recognised as one of the best, and several modifications have been made so that it can be applied to the various cavities of the ear, the nose, the eye, etc. This form of inhaler has great merits, owing to its portability. It does not contain water, another great advantage, and it can be charged with a minimum of trouble.

Lynch Brothers had a most imposing display of ether bottles, artery forceps, aspirators, bags, most improved patterns for midwifery instruments, by Barnes, etc. They also showed improved Faradaic batteries for physicians visiting; Bistouries Bodenhamer's rectal speculum; Brunton's auriscopes, which will be found very useful to medical men; laryngoscopic lamps with stands, or to fix on walls; Lawson Tait's pressure forceps, Godson's uterine dilators, Ward Cousins' tongue depressor, Teal's eye probes, *post-mortem* cases, ear syringes, enemas (Lynch's glass valves), and a variety of most forms of instruments in daily use. Messrs. Lynch and Co. also showed some silk air pillows which do not become hard, and can be carried in the pocket.

Mainchi, L., M.D., Malta, showed tablets of ophthalmology.

Pearse Ford, M.D., F.R.C.S., of 27, Alfred Place, Bradford Street, London, showed a selection of surgical instruments.

Routh, C. H. F., M.D., 52, Montague Street, London, showed a collection of directors, ecraseurs, buckle pessaries, intra-uterine pessaries, etc.

Reynolds & Branson, Leeds, had a large show of surgical instruments, dressings, etc., amongst which were Mr. Teale's sinus scoops, Mr. Hewesson's nasal dilator, Mr. A. Mayo Robson's salufer wool, a surgical dressing; also Professor Mc'Gill's salicylic silk; new iodoform dredger, trusses of various patterns, all rubber, glycerine pads, pessaries in great varieties, etc. Messrs. Reynolds and Branson also showed their well-known portable continuous current batteries, patent constant battery for lamps, motors, etc. Altogether Messrs. Reynolds and Branson are to be congratulated on their good show of instruments.

Schall, K., Electro-Medical Instrument Maker, had a splendid show of electrical instruments for illuminating the ear, eye, nose, mouth, larynx, œsophagus, stomach, rectum, bladder, urethra, and vagina. Their continuous current batteries, batteries for electrolysis, combined batteries, galvanometers and electrodes, batteries for galvanic cautery and electric light, were all most perfect instruments, each one in themselves. Space will not allow of a fuller description of them in this notice.

Shipton, J. S., M.D., Deputy-Surgeon General, A. M. D., Leeds, showed splints for gunshot and other compound fractures of the limbs.

Weiss, John & Son, London, are so well-known in the surgical instrument line, that it would be needless to say more than they had as usual a good show of the most improved surgical instruments, and the numbers of medical men at their stall showed the interest taken in their specialities.

Wood, Joseph & Co., Yorkshire, showed instruments (surgical), trusses, bandages, instruments for the treatment of deformities, spinal and other supports, all of which attracted great attention.

Dr. Churton, of Leeds, showed a method of case reporting, and Mr. B. Allsopp, *Shipley Times* Office, Saltaire, some A. B. C. medical account books.

Pentland, Young J., Edinburgh.—The manner in which Mr. Pentland produces his books calls for the highest praise. The types from which the impressions are taken are characterised by their clearness and elegancy, and the printing is done with an absence of roughness which satisfies the eye, so that the turning over the leaves of a book like that of Mr. George Berry, F.R.C.S., etc., on "Diseases of the Eye," becomes a positive pleasure to the lover of books. This is a magnificent 8vo of 678 pages, illustrated with a large series of coloured plates, from original drawings. All are excellently reproduced. Mr. Pentland had on view American and English works. We can only allude to a few. Byron Bramwell's works are well-known. They are produced in his very best style, as for instance "Diseases of the Heart and Thoracic Aorta." This is a large 8vo, of 785 pages; it has 226 wood engravings, and 68 pages of lithograph plates, exhibiting 91 figures. It is as useful a book as it is beautiful. "Diseases of the Spinal Cord" is another work worthy of distinction. The work of Dr. Allan Jameson on "Diseases of the Skin," is well-known to Edinburgh students; so are Ramsay Smith's "Illustrations of Zoology," and Sims Woodhead's "Practical Pathology and Pathological Mycology." The illustrations in both these works are excellent. Amongst the American works we noticed the first volume of Dr. Keating's "Cyclopœdia of the Diseases of Children," a fine 8vo of nearly 1000 pages, admirably printed and illustrated. There will be four volumes to complete this work. Mr. Young Pentland is the English publisher of this work. "The American System of Gynæcology and Obstetrics," four volumes, of about 900 pages each, is another enterprising work deserving of notice. There were other American works by Gross, Landis, Herwitz, Roberts, Bartholow, Louis Starr, etc. The translations introduced by Mr. Pentland are numerous, including such standard works as "A Text-book of General Botany," by Behrens; "The Refaction and Accommodation of the Eye, and their Anomalies," by Landolt; "The Parasites of Man," by Leuckhart; "The Diseases of the Ear, and their Treatment," by Hartmann, etc. Mr. Pentland has rapidly come to the front as a medical publisher; our old London houses will have to look to their laurels.

"The Provincial Medical Journal" and "Contemporary Medical Men," 10, Friar Lane, Leicester. Mr. Jessop's likeness in the August issue was much appreciated. It was an admirable representation of the popular president of the Surgical Section. Dr. Tidy's likeness in "Contemporary Medical Men" excited interest, owing to the Maybrick trial. The execution of the lithographs in this volume do great credit to the printer, Mr. Lead; they are as true to nature as art can go.

Davis, Mr. F. A., 139, Oxford Street, London. Mr. Rebman represented this house, and had an excellent assortment of some of the newest and best American works, some of which were elegantly bound. Ramsey's work on "Diseases of the Nervous System," with its beautiful plates and diagrams, was much and deservedly admired. The Annual of the Universal Medical Sciences, edited by Sajous, is a wonderful book, and the more we examine it the more we are struck with the thoroughness with which it has been done. The labour of editing such a work is Herculean. The proof-reading has been admirably done, for accuracy in a work of reference is all essential, and there are thousands of references in the annual. Another book of very great interest is the Text-book "On the Physiology of the Domestic Animals," by Robert Meade Smith, A.M., M.D., in 938 pages, with over 400 illustrations. We can only briefly allude to some of the other works, as Mear's "Practical Surgery," Massey's "Electricity in Diseases of Women," James's "American Health Resorts." The execution of these works, as regards printing, plates, and illustrations, fully sustain the credit of this house.

SECTION E.

SANITARY AND AMBULANCE APPLIANCES.

Barlow, W., Bolton, showed samples of their patent souple boots. We can recommend them for their pliability and easiness for the feet.

Boyd & Co., Belfast, showed their patent doctor's coats, now so much worn by medical men, and so useful in riding, driving, etc. It is the most comfortable coat we know of, and should be used by all country practitioners.

Billington Bros., Liverpool, showed a good assortment of spring mattresses and other hospital furniture. Their asylum bedstead was worthy of notice, as the patent woven wire mattress, specially attached to frame, avoided injury to the patient. They had also a patent system of folding-bedsteads, with spring mattress and best white canvas pillow, also folding camp bedstead, invalid's couches fitted with spring backs, mattresses composed of antiseptic pine wood wool, suitable for institutions in lieu of straw.

Bulwer, G. B., Architect, Leeds, showed patent ventilating lintel for easy admission of air into rooms.

Dixon & Son, Leeds, showed oriental shower baths, improved fire-clay sink, double lavatory (Morrison's patent), and Magnen's water filters.

Donegal Industrial Fund, The London, showed samples of sanitary hosiery and vegetable dyeing.

Gale, George, & Son, Leeds, showed patent Dominion spring mattress, combination spring bed, and the "Lawson Tait" hospital bed, all good samples of beds and mattresses.

Jacob, Ernest H., M.D., Leeds, showed a ventilating coil case, with valve for steam or hot water. The air is admitted from the outside, and passes either over the heating coils, or unheated, according to the position of the upper valve. By adjusting the valve the air can be admitted at any required temperature. The lower valve is shut only when the room is to be heated previous to occupation, and no ventilation required. The air then circulates from the room, through the coil box by the lower opening.

Wooderspoon & Co. showed a number of temperature charts, which will be found extremely useful.

Hazell, Watson, & Viney, Hatton Garden, London, owing to want of space, were placed in the Sanitary Department, and here specimens of Smith's visiting list, medical ledgers, day books, etc., were shown; they had also a collection of new medical works, and specimens of the "Illustrated Medical News." The chromo-lithographs were admirable.

Sanitary Appliances, Ambulance, etc.—In connection with the Medical Staff Corps were to be seen a number of Field Companions, medical and field fracture boxes, fitted up by Messrs. Savory and Moore. These cases left nothing to be desired in the way of equipment.

SOME FRENCH CONGRESSES.

[FROM OUR OWN CORRESPONDENT.]

WE have had a good time with our congresses, the Exhibition affording an opportunity of organising, or rather an excuse for calling together a number of enthusiasts, scientific men, bores, wind bags, and all that goes to the making of a congress. In congresses held in a foreign country, everyone can enter, if he be decently dressed, can write his name and address, and pay his contribution. Thus the English medical man of bad repute can join a French congress, the French medical man of bad repute a German or English one, etc., etc., and many men do attend congresses with objects in view outside the progress of science. I do not see, however, how we can prevent this.

There have been many congresses in which medical men could join, as, for instance—*Congress International d' Assistance Publique.* This Congress took place from July 28th to August 4th, and was opened by M. Theophile Roussel, with M. Thulié as secretary general. M. Thulié said at the opening at the opening that the Congress proposed to seek by comparison of what is done abroad, and by the help of all classes of workers for the best method of rendering public assistance. The time of the Congress was taken up with discussing many social problems affecting the well-being of humanity, and amongst which came such a problem as the organisation of medical help in the country, on which there was an interesting discussion raised by M. Theo. Roussel, and a variety of information was contributed by different countries. M. Angel Gavino (Mexico) said that there private initiative was first depended on, but that the tendency was for the State to take up the question, which it had done, so far as regards medical and surgical aid. M. Dermello Viaria (Lisbon) told us that assistance was rendered by the State, by the departments, and by private initiative, but public assistance was only obligatory for foundlings, and for the poor under certain limits. The religious took upon their shoulders a large portion of the relief. M. Bagenow (Moscow) said the organisation of medical relief dated back from the reign of Alexander II., twenty-five years. There were small communal hospitals, with fifteen to twenty beds, with district officers who had a range of work of fifteen to sixteen killometres. In the large cities there were fine hospitals, and for the insane they were organising. Moscow had now a fine asylum. Mr. Severeand (Roumania) said that the Roumanian system had been re-organised by a French military doctor, M. Divallat, and it resembled the French system. There was a new feature, in addition to the provision they had made for certain centres. There were scattered districts and scattered houses for which it was difficult to provide. They had overcome this by providing travelling physicians, who went from place to place with ambulance material, and who gave advice and dispensed medicines, and whose stipend was about 1,000 francs a month. M. Milan Vladmir Vassil (Servia), explained the organisation of his country, which was analogous to that of Roumania, but always directed by the State. M. Balavcky said that Bohemia was served by three grades of medical men—physicians attached to the civil service, district physicians, and private physicians. Each commune was obliged to have a physician, who was paid by the commune. Vaccination was compulsory, and cost 100,000 francs a year. M. Vanderlych (Moravia) said medical assistance in Moravia was precisely carried on under a law which had been refused in France. Each commune had a practitioner for the poor, and for other duties connected with civil administration. M. Alberto Costa (Argentine Republic) gave a full description adopted under this cosmopolitan Republic, and it would certainly appear from his description that this State was in as forward a condition as most of the other countries. M. Khames (Hungary) and M. Hehl (Massachussets) also spoke.

This short account of the observations of a few of the speakers will give you some idea of the scope of the discussions, and you will see how far medical men are interested in them.

The Congress of Therapeutics and Materia Medica was from the 1st to the 4th of August, and was a very successful one, and I may allude to a few of the papers. In the section devoted to therapeutics, M. Semmola, of Naples, detailed some experiments he had carried on, on the treatment of different dyscrasic maladies, and he had come to the conclusion that the exact measure of improvement was to be found in the increase in hæmoglobine in the blood. He referred particularly to the treatment of syphilis by mercury, on which he was able by the chromo-cytometric method to establish a few points. 1. Progressive syphilis not treated by mercury provokes a diminution of the hæmoglobine. 2. Animals, when given mercury, suffer also from a diminution of hæmoglobine. 3. Syphilitic patients after a course of mercury improve, the quantity of hæmoglobine became greater. Professor Semmola, by means of the hæmochromo-metric method, would measure the curative results of mercurial treatment, and it was superior to clinical examination. Professor Semmola spoke with approval of the instruments of Bizzazero, Malassey, and Von Plessets. Space will not allow me to give an account of the paper by M. Lavarx (Paris), "On the Employment of Cocaine in Affections of the Urinary Passages," and many other papers of which an abstract would be very useful. I hope to be able to transmit you a full synopsis, because therapeutics and materia medica must be particularly interesting to your readers, and I find on turning over your pages that you make a speciality of these subjects.

Another Congress—viz., that on Alcoholism was held from July 29th. Many important questions were discussed, as "The Means of Diminishing the Consumption of Alcohol," "The Responsibility of Alcoholics." For those who have the drink crave, I agree with the opinion of the delegate from London—"That total abstinence is the only safeguard." The suppression of cabarets and drinking shops appears to me to be imperatively demanded as thereby temptation is put in the way of the working man. We may have congresses and discuss this drink question *ad infinitum* without result, because the old question turns on revenue. As long as governments derive their chief income from spirit duties, and as long as the mass of the people are passive, we, as a profession, are powerless. Though we must relieve our consciences and give the results of our experience. The subject of responsibility of the alcoholic is a very important one, and was introduced by Dr. Motet. What is wanted is interdiction and internement, and here the question of the liberty of the subject comes in, and many delicate points arise. Drunkenness, especially habitual drunkenness, might be very easily suppressed by the plan put in force I believe in one country. The drunkard, on conviction, is not sent to prison. No matter what his position may be, he is set to some manual work, to clean the streets, empty the ash tubs; thus he is exposed to some personal indignity and annoyance, and at the same time he is made useful. This is not like the old stock plan. You put a man in prison for fourteen days at great expense, and you may thereby deprive the man's family of food, but by this open-air system you save the expense of his keep, and if the family be badly off, though you give a subsidy, you would still be a gainer. The reformatory influence of a good brush is very great, and I should like to see it put in practice. The habitual drunkard who wastes his own patrimony and that of others, and causes domestic unhappiness, and who neglects his children, etc., ought to be treated with a vigorous hand, extending to him our full sympathy and compassion, but at the same time having some consideration for his victims. He is really a selfish criminal, and though, unfortunately, he is often surrounded with a halo of sentiment as many criminals are.

(*To be continued.*)

Medical Miscellanea.

THE subject of our next illustration will be William Francis Ainsworth, Ph.D., F.S.A., F.R.G.S., L.R.C.S.

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His Royal Highness, the Duke of Bavaria, M.D., has just done his one thousandth cataract operation.

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We regret to announce the death on August 1st of Surgeon-General Galbraith, who had the medical charge of the troops at Cairo.

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A new wing is to be added to the Leeds Infirmary. The new erection will be in general keeping with the present building, with which there will be communication by corridors. The estimated cost will be £17,000.

The Croonian lectures, 1890, will be given by Dr. Ferrier, and those for 1891 by Professor Burdon Sanderson.

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Sir James Paget, Mr. Hutchinson, and Sir William MacCormac have been appointed members of the standing committee of the Father Damien Memorial Fund.

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Dr. Lewis A. Sayre has recently been elected an honorary member of the St. Petersburg Medical Society, which is one of the largest and most important of the Russian societies.

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On the recommendation of the Government of India Her Majesty's Government has been pleased to confer a good-service pension on Surgeon-General George Bidie, M.B., C.I.E.

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Dr. Brown-Sequard's rejuvenating fluid is said to have been tried at Indianopolis, on a decrepit old man, with marvellous effect. Ten hours after the injection the patient walked over a mile in twenty-five minutes. He declared that he felt more vigorous than he had done for twenty-five years. He read a newspaper without glasses, a thing he had not done for thirty years. It should be added that no medical authority is given for this story.

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We are sorry to have to record the death of Dr. Thomas King Chambers. He was Honorary Physician to the Prince of Wales, and a member of the General Medical Council. Dr. Chambers was a good scholar, an accomplished gentleman, and highly esteemed by all with whom he came in contact. Dr. Chambers's work on the General Medical Council was of a valuable character. He had virtually retired from practice, and his illness was of long duration.

* * * *

A case of severe articular rheumatism, which, for seven days, had been treated by the remedies usually employed in such cases without avail, is reported by Dr. H. Amon, in the *Centr. f. klin. Med.*, May 25th, 1889, as having been completely cured by six-grain hypodermic injections of antipyrin. The remedy was subsequently employed in twenty other cases with equally gratifying results. Amon usually injected the drug deeply into the muscle and in the immediate vicinity of the affected joints; a bandage with considerable pressure was then applied. In one instance he observed a slight superficial gangrene of the skin to follow the injections. Very little pain was caused by their use.

* * * *

Literary Piracy, or What?—The *New York Medical Record* made a very grave charge against us of publishing an article which had already appeared in its columns. The explanation was simple: we published it with author's permission. What shall we say now? The *New York Record* has an article in one of its August issues the MS. of which was sent to us, and which first appeared in our columns—"On a Visit to Mr. Lawson Tait." Is this piracy? Certainly not. Probably the American article was reprinted from our proof sheets, and we are very pleased that English articles should appear in American journals. We give authors three proof sheets, one of which can be sent to any foreign journal at author's discretion. "Those who live in glass houses should not throw stones."

* * * *

In an article on the resection of the sternum in the *Centralbl. f. Chirurg.*, May 25th, 1889, Dr. G. Steinheil says that the operation was first performed by Galen, and use to be most rare. Since the sub-periosteal method was introduced by Ollier it has become more frequent. Eighty-four cases were reported by Otis as having occurred during the American war, but these Steinheil does not take into consideration, as their history was incomplete. He, therefore, states that thirty-six authentic cases have been recorded. In conclusion he makes the following assertions: 1. The sternum can be successfully resected in part or in its entirety. 2. The difficulty of the operation depends upon the extent of the resection, the portion resected, the cause of the operation, and the method employed, whether sub-periosteal or not. 3. In complicated fractures, especially when resulting from gunshot wounds, the result of the resection depends upon the course of the wound. 4. Chronic inflammatory processes are the most frequent indications for resection of the sternum. The sub-periosteal method is attended by the greatest success, frequently osseous regeneration will follow. The operation is frequently performed for the removal of tumours of the sternum and mediastinum, and also to form an opening in the chest through which the larger vessels may be tied.

The first report of the Vaccination Committee has been presented to Parliament. It consisted chiefly of minutes of evidence, appendices, etc. But it will be a long time before the commission are in a position to come to any conclusion upon the evidence laid before them.

* * * *

The French Congress of Surgery will hold its fourth session in Paris from the 14th to the 20th of October. Among the subjects to be discussed are the following: "The Immediate and Remote Results of Operations for Localized Tuberculosis," "The Surgical Treatment of Peritonitis," and "The Treatment of Aneurysms of the Limbs." Business communications should be addressed to M. F. Alcan, 108, boulevard Saint-Germain, Paris; those on scientific matters may be addressed to Dr. S. Pozzi, secretary general, 10, place Vendôme, Paris.

* * * *

The Annual Temperance Breakfast in connection with the British Medical Association was held at Leeds by the invitation of Sir Edward Baines, Mr. Arthur Peace and Dr. Hannay, vice-presidents of the Temperance League. About 250 accepted their invitation. Sir Edward Baines, who is in his ninetieth year, stated that these breakfasts had been begun twenty years before the first being held at Leeds, when he was present. Short addresses were given by Dr. C. J. Hare and Norman Kell, London; Dr. Cameron, Glasgow; Dr. Ridge Enfield, and Dr. Lees. Dr. Kell stated that there were nearly 1000 practitioners who were total abstainers.

* * * *

We are very pleased to have to record that Her Majesty has been pleased to confer upon Dr. John T. Banks, at Dublin, the Knight Commandership of the Bath Civil Division. The distinction thus conferred has been warmly received by the profession generally, but particularly in Ireland, where Sir John Banks was so popular. In 1843 he was appointed one of the physicians of the Home of Industry Government Hospitals, where he is now senior physician. In 1849, he became Kings' Professor of Medicine in Trinity College; he has been President of the College of Physicians; and on the visit of the British Medical Association to Dublin he was made its president. He is Physician in Ordinary to the Queen in Ireland, and reigns Professor of Medicine in the University of Dublin. Five years ago, Dr. Banks was offered knighthood, but he declined the honour.

* * * *

Dr. Schütz, in the *Therap. Monatsheft*, May, 1889, states that, having observed the beneficial effects of compression bandages in leg ulcers, he conceived the idea of applying a similar treatment in facial lupus where, after the latter has been scraped away, large granulating surfaces are left. His method is to apply a carbolized gutta-percha plaster containing mercury to the wound, and fixes it to its place with a thick coating of collodion. This plaster should be removed every six to twenty-four hours. The change of dressings should be performed as rapidly as possible, ether being used to dissolve the collodion. After the wound is fairly closed a plain dressing should only be applied for a few days; the cicatrix may then be rubbed down with powdered marble and soap, and massage resorted to. The general health of the patient is also of great importance. A strong nutritious diet should be enforced; fresh air and gentle exercise also advised.

* * * *

The profession in London has sustained a severe loss by the death, at the age of sixty-four, of Dr. Samuel Osborne Habershon, which occurred at his residence in Brook-street on the 22nd inst. The numerous distinctions, scholarships, and gold medals, acquired by Dr. Habershon as a student at Guy's Hospital and at the London University gave early promise of his distinguished career. He took his M.D. degree at the latter University in 1851, and was elected a Fellow of the Royal College of Physicians of London in 1856, upon whose roll he afterwards figured as Lumleian Lecturer in 1876, censor in 1874 and 1875, Harveian Orator in 1883, senior censor in 1885, and vice-president in 1887. Elected assistant physician to Guy's Hospital in 1854, he became physician in 1866 and senior physician in 1873. He was one of those who felt themselves compelled to resign his post at this institution in 1880 in consequence of the action of the treasurer and governors in relation to the regrettable conflict between the medical and the nursing authorities. He delivered the Lettsomian lecture before the Medical Society of London in 1872, and in the following year was chosen as its president. He was elected president of the Metropolitan counties branch of the Brittish Medical Association in 1880. Dr. Habershon's numerous writings are well-known to the medical profession. They include:—"On Diseases of the Abdomen," "Diseases of the Stomach," "Diseases of the Liver" (Lettsomian lectures), "On the Pathology of the Pneumogastic Nerve" (Lumleian lecture). He was a frequent contributor to Guy's Hospital reports, the medical journals, and the various medical societies.

Dr. M. J. Lewis states, in the *Medical News*, that eucalyptol in doses of five grains six times daily, is useful in headaches, particularly those of a congestive character.

* * * *

The average important alterations and additions in each issue of the "Medical Directory" amount to 7,700, made up as follows: Appointments obtained or resigned, 3,200; change of address, 2,700; new members of the profession, 1,200; removals by death, 600.

* * * *

A cottage hospital is to be built at Bromsgrove, near Birmingham, and large sums have been given towards its erection. Dr. Chevasse has offered to build and furnish a male ward for six beds, to be called the Arthur Ryland Ward. Mr. Corbett, M.P., gives £500, and Lord Windsor £100.

* * * *

In Mr. Henry Irving's speech at the festival dinner to Sir Morell Mackenzie, he said "There had always been a deep sympathy between actors and doctors, but he did not know why, unless the doctors regarded the players as a little mad. Actors were on the free list of the doctors skill."

* * * *

The American Association of Obstetricians and Gynæcologists will hold its next annual meeting at the Burwell House, Cincinnati, on September 17th, 18th, and 19th, 1889. The papers and discussions will embrace subjects pertaining to obstetrics, gynæcology, and abdominal surgery.

* * * *

At Marseilles, Bordeaux, and Portiers, public exhibitions of hypnotism have been forbidden. In Belguim, Geneva, and Mecklenburg-Schwerin they are likewise forbidden. In Paris, unfortunately, unwise doctors can show off their patients, and quacks follow in their steps with unwholesome imitations.

* * * *

The subjects of the doctoral theses, recently argued at the Paris Faculty of Medicine, occupy a wide range. The first on a long list is entitled: "Facts concerning the Odorant Products of the Rose." M. Dudley Tail has his name to a thesis on "Lanolin." Three ladies have argued their theses on purely medical subjects. Among them Madame Dejerine-Klumpke née Klumpke.

* * * *

French medical journals state that a flag will be displayed at the Medical Department of the University of Paris whenever a confinement is in progress in the obstetrical ward. The colour of the flag will indicate the kind of confinement. A blue flag will indicate the confinement is simple, a yellow flag that the labour is difficult, and a green flag that an operation is necessary.

* * * *

The summer general meeting of the Irish Medical Schools and Graduates Association was held on August 14th, at the Philosophical Hall, Leeds; Dr. Fagan (Blackheath), president, in the chair. Among those present were—Drs. Macnaughton Jones, Mapother, Darkson, Halton, Professor Cumming, and Dr. Abraham (Honorary Metropolitan Secretary). Resolutions in favour of the formation of provincial branches of the association, and in reference to an official organ of publication, and a vote of thanks to the Reception Committee for the use of the hall were passed.

* * * *

The tenth International Medical Congress will be held in Berlin. The Congress will be opened on the 4th, and closed on the 9th day of August, 1890. Detailed information as to the order of proceedings will be issued after the meeting of the delegates of the German medical faculties and medical societies at Heidelberg on the 17th of September in the current year. Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles, and add at the same time our cordial invitations to the Congress. —VON BERGMANN, VIRCHOW, WALDEYER.

* * * *

The report of the Select Committee appointed to inquire into the operations of the thirtieth section of the Friendly Societies Act 1875, recommends that the age for the insurance of juveniles be extended from ten to sixteen years, but that the total amount of insurance be absolutely limited, and for the security of infant life suggest that the Registrar-General should add to the form of medical certificate of death a column demanding particulars of insurance on the life of the deceased, to be filled up by the doctor in attendance on the family. In view of the excessive prevalence of infant mortality, these provisions cannot be considered unnecessary or supererogatory.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, *"The Provincial Medical Journal," Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, Friar Lane, Leicester.

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16th of the month.

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

ON AN EPIDEMIC OF BORDER-LAND FEVER AND INFLAMMATION.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—In turning out some old papers lately I came across the following correspondence. Dr. Alison's letter will be read with interest. His criticism of my use of the word "pneumonia" is just. The cases were not typical pneumonia; but they were not bronchitis in the accepted use of that word. I could not then, and cannot now, classify the cases under any orthodox name. I perfectly remember seeing men about the deck looking ill, and on examining them I should find the base of the lungs congested, and with fine crepitation. The cases in the earlier weeks were of short duration—a few days; but as the voyage progressed, and in the cold south latitudes, the cases assumed a continued fever type. There was a striking continuity in the series of cases throughout the voyage.

The experience of the voyage convinced me of the *de novo* evolution of fever, with and of changed environment; that the "specific" was not absolute in the deeper nature of fevers; that fever and inflammatory lung cases had a Form in common, and that fever may arise *de novo* out of the body, from chill.

The surgeons-superintendent of Government emigrant ships always handed over their medical journals to the colonial authorities, who sent them home to the Colonial Office in London. Some years after, wishing to work up the detail of this epidemic, I applied to the Colonial Office for my journals, but received the reply that they had been destroyed. I had not, in my voyage on the ship *Star of the South*, begun the practice of keeping a minute and systematic private medical journal. But my letter to Dr. Alison was written when the anxious experience of the voyage was very vivid to my remembrance.—Yours truly,

WILLIAM H. PEARSE, M.D.

"JANUARY 12TH, 1858,
"LONDON.

"SIR,—Please to pardon my troubling you with this communication. You will at once judge whether it be of any value in considering the causes and course of fevers, etc.

"On board the Government emigrant ship *Star of the South*, which sailed from Birkenhead in April last for Melbourne, with over 400 souls, there were from almost the commencement to the end of the voyage a great number of cases of pneumonia—I may say an *epidemic* of pneumonia.

"The passage lasted fourteen weeks.

"The cases of pneumonia became frequent about a fortnight after sailing, but yet more so after leaving the southern tropic—winter season in that hemisphere—the thermometer averaging from 45° to 54° F.

"The cases were slight. As a general description the patient would come to me complaining of 'stitch.' The expression of face dull; pulse small and rapid; an absence of well-marked inflammatory symptoms. The characteristic crepitation was always found.

"The peculiarity to which I have thought it would be worth while to draw attention was the almost epidemic character of these attacks. During week after week from six to ten such cases would happen. The patients would recover in a few days.

"In the great majority, the health being perfect in the afternoon, shivering would come on in the evening, and next morning the case would be established.

"Towards the end of the voyage the cases, instead of recovering in a few days, would pass on into well-marked fever; yet the pneumonia was in nearly all one of the first symptoms, following the shivering very early. The pneumonia and accompanying symptoms would continue without any improvement, and without becoming very severe—'hanging on,' as it were.

"There were, however, a few cases—two fatal at the end of the voyage—in which no pneumonia existed, nor any other local affection save a slight bronchitis. As a general statement, so far as I could observe, there was no difference between these first simple and the later severe cases, save in their intensity and the different period of the voyage at which they happened.

"The first fatal case of fever occurred about the end of the fifth week; no other happened in the succeeding month. A very tall and delicate young man had several attacks of epistaxis, for which he came to me. There was great subsultus tendinum, rapid and irregular pulse, and great trembling of the jaw in attempting to speak. Symptoms of fever became marked, and death in about fourteen days. Peyer's glands were found ulcerated.

"The second fatal case occurred in the twelfth week. Shivering came on a few hours after sleeping in a draught of air, and death in fourteen days. No pneumonia or other local affection. This case promised to recover after the first week, but relapsed.

"At the end of the twelfth, and during the thirteenth and fourteenth weeks, there were several cases of fever without any local symptoms.

"That which seemed worth noting was: (1) The almost epidemic pneumonia, increasing in severity towards the end of the voyage, the fever symptoms becoming then the more prominent. (2) Also towards the end, fever beginning to prevail, without local disease. (3) An apparently spontaneous case of fever, not connected with any other in time or place, and affecting probably the most delicate person on board. (4) Another case distinctly traced to a short exposure to cold. (5) Comparing different cases, there was a less uniform series of symptoms, and a different general aspect, from fever as usually seen on shore. (6) Whether one may justly, and how far, acknowledge a less specific difference of causes and conditions of the body, which result in the two maladies—fever and pneumonia. I may add that no new case arose after the people were landed.

"I believe that fever is more liable to originate (to occur) in ships whose sides are salted than in those not salted. Dr. Robertson, the health officer at Port Philip Heads, expressed this opinion.

"I must again beg you to pardon my obtruding this letter on your notice. My intention is to note the "facts of the history" of disease in an isolated community, and which might possibly be interesting in throwing light, however small, on the pathology of fevers.—I have the honour to be, sir, your obedient and obliged servant and former pupil,

"WILLIAM H. PEARSE.

"Dr. Alison."

"HERIOT ROW, EDINBURGH,
"JANUARY 19, 1858.

"SIR,—I feel much obliged by your sending me the account of the epidemic pneumonia in the people under your care, because I feel a strong interest in the question of the mode of origin or extension of various epidemics, and have always thought that a ship's company under careful medical inspection at sea is the very best of the 'organized masses of men' on whom satisfactory observations on such subjects can be made.

"I should like to transmit your letter to the secretaries of the Medico-Chirurgical Society here, who will probably make it a subject of discussion and subsequent publication; but I know that they are fully provided with matter for their next meeting, which is this week, and before another meeting, the week after next, I hope that you will favour me with some additional information, which, as I think, may increase its value decidedly.

"I should wish to know what were the whole numbers affected, and what the dates of the first and last cases? also, whether you have had any other fatal cases, and any dissections, besides those two that you mention, and in which there were the febrile symptoms with the pneumonia? and especially I should wish to know what evidence you had of the existence of pneumonia besides the crepitous rale? That rale, although in some cases very distinctly is, according to my observation, so nearly imitated in some cases by what I presume may have been capillary bronchitis only, that I should hardly trust to it in any such cases as yours unless supported by the *pneumonic sputa*, stained, not merely streaked, with blood of various colours, and the absence of respiratory murmur, and usually of movement, at *that part of the chest*. If you have not observed this, and if the crepitation which you observed was nearly alike *at both sides of the chest* and low down, I would be disposed to call these cases a peculiar form of *epidemic fever*, very generally attended with bronchitis, very much akin to what we call influenza, rather than *epidemic pneumonia*. Taking this view of them, I should think them not less instructive, although less peculiar, than if we regard them as pneumonia; but we are more certain of the accuracy of the language employed, and, as we know that almost all cases of continued fever in the temperate and cold climates, if protracted *for a certain time*, become attended with more or less of capillary bronchitis, we can understand the transition of your epidemic into the two fatal cases of simply typhoid fever which you describe.

"I should wish to know, also, whether you think any *malaria*, or any such cause in the ship, independent of living action in the human body, could have existed for the epidemic you witnessed. We have certainly had in this country epidemic pleurisy in cattle—one kind of *murrain*—and occasionally cases of typhus or typhoid fever, attended with a circumscribed peripneumony, sometimes even with pneumonia going to gangrene; but such cases in the human body are very rare, and, as far as I have seen, are complex, some more prominent form of disease acting within the chest at the time.

"I shall hope to hear from you again before the middle of February, and am, sir, your obliged and faithful servant,

"W. P. ALISON.

"P.S.—I do not know what, or how, salt is used in building ships, and shall be obliged to you for information as to that.

"W. H. Pearse, Esq."

CANADIAN DRINK STATISTICS: CORRECTION OF RETURNS OF THE DOMINION GOVERNMENT.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—Would you allow me to draw attention in your columns to certain figures contained in a Canadian Blue Book, entitled: "Report, Returns and Statistics of the Inland Revenues of the Dominion of Canada for the year ended 30th June, 1888," which seem to show that in Canada, and especially in the Province of Ontario, a great increase in the consumption of spirits has taken place in recent years? The remarkable figures referred to have been much insisted upon by the opponents of local-option, as affording conclusive evidence that the Canadian local-option law has not only signally failed to reduce the consumption of alcohol, particularly in the form of spirits. In one of the appendices (Appendix *A*) to that report there is given a tabular statement purporting to show, among other things, the average annual consumption from 1867 to 1888 inclusive, of spirits, wine and beer, per head of the population of each of the provinces of the Dominion, as well as the yearly consumption of these liquors per head of the population of the Dominion as a whole. From this appendix it appears that for the ten years immediately preceding the passing of the Canadian local-option law the average annual rate of consumption of spirits per head of the population of Ontario was 1,389 gallons; while, for that Province, for the three years 1886-7-8 it averaged 2,545 gallons yearly; and for the last two of these years it averaged 3,061 gallons yearly. There was also, it appeared, a slight increase in the consumption of beer. Now the Returns as to "Temperance Legislation, Scott Act (Canada)," moved for by Mr. M'Lagan, show that, between the date of the passing of the Scott Act and the date of the Returns, it was in the Province of Ontario and during the years 1886-7-8 that prohibition by local-option prevailed to the greatest extent. It was therefore not a little startling to local-optionists to be informed, on the authority of the Canadian Commissioners of the Inland Revenue, that in Ontario, during the years in question, the consumption of alcoholic liquors per head of the population has risen to about twice as much as it had been before the passing of the local-option law.

I felt that there must be some mistake in these Returns, and having noticed what appeared to me to be inconsistencies between certain of

the figures given in Appendix *A*, and some of those given in Appendix *B*, I wrote to the Dominion Inland Revenue Department at Ottawa, asking for an explanation of the seeming inconsistencies. Mr. E. Miall, Commisioner of Inland Revenue at Ottawa, has courteously sent me a reply in which he states that "The first issue of the Inland Revenue contains an erroneous appendix which was afterwards corrected," and he has kindly furnished me with Appendices *A* and *B* in their corrected form. Now it is very satisfactory to find, as I do from Appendix *A* as corrected, that for the years 1886-7-8 the average annual rate of consumption of spirits per head of the population of Ontario was only ·641 of a gallon, that is, it was something less than one half of the annual rate of consumption for the ten years preceding the passing of the Scott Act. But Mr. Miall warns us that "the figures as respects the individual Provinces are a little misleading, inasmuch as spirits are often entered for consumption and the duties paid thereon in one Province and thereafter carried to other provinces for consumption. The aggregate for the whole Dominion however is correct." Such being the case I shall now deal with the statistics for the Dominion as a whole; and to show the effect of the Act in reducing or increasing the consumption of Alocholic liquors in the Dominion, will now compare the quantities consumed during the ten years before the passing of the Act with the quantities consumed during the ten years after the passing of the Act, and also during the years 1886-7-8.

For the ten years before the passing of the Act the average consumption per head of the population for the Dominion as a whole was 1.471 gallon of spirits, 2.605 gallons of beer, and .194 of a gallon of wine; the whole being equivalent in alcoholic strength to 1.780 gallon of proof spirits. For the ten years after the Act was passed the consumption per head per annum was, of spirits: .909 of a gallon; of beer: 2.711 gallons; and of wine: .105 of a gallon; the whole being equivalent to 1.206 gallon of proof spirits. That is, in the ten years under the Act there has been a decrease in the consumption of alcohol of one-third. When, however, we take the last three years, we find that for 1886 the quantity of spirits consumed per head of the population of the Dominion was only .711 of a gallon of spirits, 2.839 gallons of beer, and .101 of a gallon of wine. For 1887 it was .746 of a gallon of spirits, 3.084 gallons of beer, and .095 of a gallon of wine. For 1888 it was .645 of a gallon of spirits, 3.247 gallons of beer, and .094 of a gallon of wine. The whole is equal to an average annual consumption for the three years, per head of the population, of 1.029 gallon of proof spirits. That is, under the operation of the law which is said to have greatly increased drinking, the actual consumption of alcohol has decreased from the equivalent of 1.780 gallon of proof spirits to the equivalent of 1.029 gallon of proof spirits. In other words, the quantity of alcohol consumed annually under the Scott Act, during the last three years of its operation, was equal to only four-sevenths of the amount consumed yearly for the ten years beford the Act came into operation. Now, in the face of these facts, it surely requires some considerable degree of hardihood to go on, as many people do, declaring that the Canadian local-option law has greatly increased drinking and drunkenness.

One other comparison ought to be made. As we have seen, the total consumption of alcohol in Canada, per head of the population, was, for the last three years, eqivalent to 1.029 gallon of proof spirits. But, according to Mr. Goschen's recently issued Drink Diagram the consumption per head of the population for last year, for the United Kingdom, was .93 of a gallon of spirits; 26.8 gallons of beer, and .36 of a gallon of wine, being in all equivalent to 3.7 gallons of proof spirits. If it be true, as is alleged by some people, that drunkenness prevails to an alarming extent in Canada, how comes it that, as is alleged by much the same people, drunkenness is very rare in the United Kingdom?

Yours truly, JAMES WHYTE, Secretary.

United Kingdom Alliance:
Grosvenor Chambers,
Manchester, Aug. 8th, 1889.

HISTOLOGICAL NOTE.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—To those who do much section-cutting by freezing the tissue in gum and sugar, it may be useful to learn that a mucilage of dextrine is equally efficient. I find that by taking an aqueous solution of carbolic acid (about one in forty) and dissolving therein sufficient dextrine to make a thick syrup, a medium is obtained which is superior to the time-honoured gum and sugar, in three ways: It freezes so as to give a firm support without being too hard; it keeps better than gum, in which several kinds of fungi are apt to grow; it is *much cheaper*, costing only fourpence a pound, whilst powdered gum acacia costs five shillings. Dextrine dissolves but slowly in cold water, so that a gentle heat is advisable when making the mucilage.—Yours truly,

Iron Bridge, Stourbridge, Salop. T. LAW WEBB, M.R.C.S. Eng.

Bibliographical Record.

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The Classification, correct Dietary, and Treatment of Diseases of the Skin. By H. S. Purdon, M.D. London: Baillière, Tindall, & Cox.

The Liverpool Medico-Chirurgical Journal, No. 17, July, 1889. London: H. K. Lewis.

The Human Foot: its Form and Structure, Functions, and Clothing. By Thomas S. Ellis, Consulting Surgeon to the General Infirmary at Gloucester. London: J. & A. Churchill.

The Queen's College, Birmingham, Calender, 1889-90.

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EXCHANGES, 1889.

AMERICAN:—

1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

BRITISH:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

DUTCH:—

35. Nederlansch Tijdschrift voor Geneeskunde.

FRENCH:—

36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
42. Annales de Gynæcologie et d'Obstetrique.

GERMAN:—

43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
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49. Chemiker Zeitung.

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50. Lo Sperimentale.
51. Rivista Internationali di Medicina.

PORTUGUESE:—

52. A Medicina Contemporanea.

RUSSIAN:—

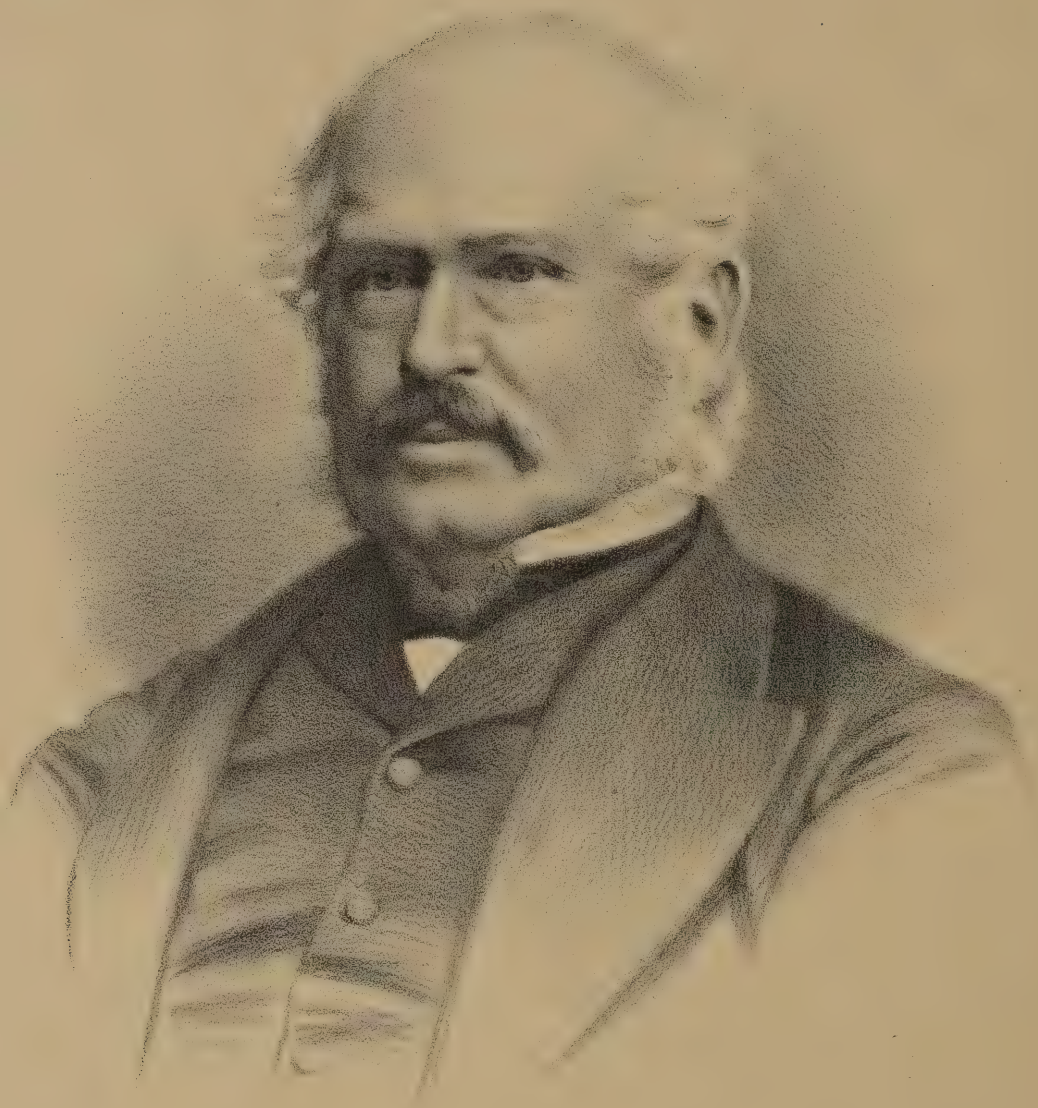
53. Vratch.

SPANISH:—

54. Rivista Clinica de Barcelona.

TURKEY:—

55. Revue Medico-Pharmaceutique Constantinople.



Yours very truly

W. F. Ainsworth.

THE

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Our Portrait Gallery.

WILLIAM FRANCIS AINSWORTH,

Ph.D., L.R.C.S., F.S.A., F.R.G.S.

THE subject of our illustration has long retired from the practice of either medicine or surgery, devoting himself almost entirely to scientific and literary pursuits, but always keeping himself in touch with the profession. The name of Ainsworth is a household word. Cousin of the late Harrison Ainsworth, Dr. Ainsworth inherited a share of the family genius for letters, and he is a facile writer and a successful and well-known author. It has been often made a reproach that medical men do not contribute much to general literature. We do not plead guilty to this indictment. We believe that general literature has been much enriched by the contributions of medical men, and we could quote a number of names of practitioners who have notably added to it. Like many other charges against medicine, it crumbles away when closely examined. Medical men, for instance, are accused of being indifferent to religion, and of being atheists. This charge has been often refuted, but we think in no way better than by Dr. Oliver Wendell Holmes in "Elsie Venner."

The old doctor described in the book tells a clergyman that "God opens one book to physicians that a good many of you don't know much about—the book of life. That is none of your dirty folios with black letters between pasteboard and leather, but it is printed in bright red type, and the binding of it is warm and very tender to every touch. They reverence that book as one of the Almighty's revelations. They will insist on reading to you lessons out of it, whether you call them names or not. These will always be lessons of charity." We have, however, in Dr. Ainsworth, a good example of a literary doctor, and we have pleasure for that reason in including him in our series of biographies.

Dr. Ainsworth was born in 1807; he has outlived most of those with whom he commenced his studies. His taste for travel developed in early life, and before settling down he made many excursions abroad, cultivating science, observing and educating himself, so that we are not surprised to find that in 1829 he became editor of the *Journal of Natural and Geographical Science*. On the breaking out of cholera in Sunderland in 1832, he was one of the first to repair thither in order to study the new epidemic, and he published the result of his observations in a work "On Pestilential Cholera." He was successively appointed Surgeon to the Cholera Hospital; St. George's Hospital, Hanover-square, and to the Hospitals of Westport, Ballinrobe, Claremorris, and Newport (in Ireland); whilst in that country he lectured on Geology in Dublin and Limerick. In 1835 he was appointed Surgeon and Geologist to the *Euphrates'* expedition. He published "Researches in Assyria, Babylonia, and Chaldœa" in 1838, in which year he was sent also by the Royal Geographical Society and the Society for Promoting Christian Knowledge to the Nestorian Christians in Kurdistan. His "Travels in Asia Minor, Mesopotamia, and Armenia," 1842; and "Travels in the Track of Ten Thousand Greeks," of which an analysis was also given in Bohn's edition of "Xenophon's Anabasis," were the result of the two journeys extending over a period of seven years. Mr. Ainsworth has edited "Claims of the Oriental Christians;" "Lares and Penates, or Cilicia and its Governors;" "The Euphrates Valley Route to India;" "On an Indo-European Telegraph by the Valley of the Tyris" (since carried out by the Turkish Government); "All Round the World;" "The Illustrated Universal Gazetteer;" "A Personal Narrative of the *Euphrates'* Expedition" (which has received most favourable notice from the press); "The River Karun an Opening to Commerce." Mr. Ainsworth is a member of many foreign societies. He was one of the founders of the West London Hospital, of which he is at present the treasurer and one of the trustees. For over twenty years he was a member of the Medical Board.

Original Communications.

SOME ILLUSTRATIONS OF CONSUMPTION.

By William H. Pearse, M.D. Edin.,
senior physician plymouth public dispensary.

A few years ago a family came under my notice in which the six children had died of phthisis in early man or womanhood. The father was a fine hale labourer; the mother was an uncommonly strong and hard-working woman. I could not get from the parents any history of phthisis in their ancestors, but they knew little of them. Another family, in which phthisis has appeared, has fallen under my observation, and I propose to state some facts in their history which may give a little light on the Form and pathology of this disease.

Jessie X——, æt. twenty, came to me in January, 1887. She was a general servant, and had fully and well discharged her duties during four years of such service. She had chorea when about fourteen; this had lasted one year. Her mother informs me that at fourteen she had "pleurisy and inflammation of the lungs," and, following on that, she had "fever." She had suffered boils for about four years past. The menses had commenced at fifteen; had always been regular, but scant. She was a bright, refined, and conscientious young woman; was in all respects physically well-formed and developed. She was not wasted, but plump. The infra-clavicular regions were well-clothed in fat. She applied to me in that her menses had ceased for one year. Beyond that, she made no complaint, except that she had a little cough, which, however, did not trouble her much. I found that the right infra-clavicular and right clavicular regions were a little dull on percussion; the right infra-clavicular region had dry and moist bronchial râles, and at the end of the inspiratory sound there was a short moist click. The left infra-clavicular region had capital resonance on percussion, and wheezing and cooing, and some moist râles. Though not wasted, she said that she was weak, and had felt weakness for some months. The left index finger nail had transverse sunken furrows; the eye-brows were heavy; the nose, though fairly formed, was markedly flat over the nasal bones; there was a natural sulcus between the terminal cartilages of the nose.

I sent her to her parents' home in the country, and prescribed cod-liver oil, malt extract, and quinine dissolved in muriatic acid. She rapidly developed phthisis, and died in seven weeks. I carefully avoided iron, or forcing the menses.

Her sister, Jane Anne X——, æt. twenty-five, I had known from a child. She was of splendid bodily activity and untiring energy, and exceptionally high-spirited. She had an immense amount of hair. Her teeth were a little large, regular, and sound. She had been in service, both in towns and at farms, and was always more than equal to her duties. Ten years ago she had an attack of acute pneumonia of one lung; since that attack she had been in service, sometimes at farms, at other times in towns. Her menses commenced at fifteen, and remained, during two years, full and regular. At seventeen they ceased for ten months, but returned without medical treatment, and continued regular, but scant. She had, after the pneumonia, a succession of small axillary abscesses. Two years before her last illness she was in perfect health and strength; was cook in a large establishment, and full of energy and spirit. Cough came on in the early part of 1888. She left her situation in March, returning to her parents' cottage in the country, and died in October, 1888. She was then extremely emaciated; both lungs were dull on percussion, and full of moist râles and gurgling.

Sarah Jane X——, now aged thirty-eight, was the eldest daughter. She had always lived at home up to twenty. When sixteen she had typhoid fever, and was weak for six months after. Cough, with hæmoptysis, followed at that time. Her medical man made her walk out and spend hours daily on the granite moorland. She recovered, and resumed the laborious duties of eldest daughter in her mother's large family of young children, and often working at light agricultural labour in the fields. At twenty she left her home for service, where she did a surprising amount of work as general servant, in the country—washing, dairy work, etc.

I first saw this case in October, 1876. She had cough and hæmoptysis. The left infra-clavicular region had impaired resonance on percussion, and impaired expansion; coarse inspiratory sound—almost blowing—at a spot close below the clavicle. The left sub-spinous region had impaired resonance on percussion. She was then cook in a good house with good sanitary surroundings. In a year she married, and has kept free from lung disease. Her menses are regular, but scant. Been married eleven years; has had no children. She suffers in an extreme degree from spasms, with great secretion and expulsion of wind from the stomach. She is entirely free from spasms when she takes a month's "change of air" to the moors, or with other *change* of place. The thumb, index, and ring fingers of the left hand have deep transverse ridges; but these almost wholly disappear with and after the improved general health which follows *change of air* and environment.

Emily X——, æt. twenty-two, came to me in the winter of 1888. She was then in service, but was suffering much from feeling of weakness, and distressing sense of sinking at the epigastrium. Her menses had been always regular, but scant, lasting sometimes but an hour or two. I prescribed quinine, muriatic acid, and liq. ars. hyd. after meals; malt extract with meals; and cod-liver oil at night. In a few weeks she greatly improved, and has remained well.

Augusta X——, æt. twenty, had chorea for a year when thirteen years old; her menses are regular, and full in amount; she is the youngest of a family of fifteen; has hardly strength for service; chest narrow, and breath short on any exertion.

John X——, æt. thirty-six, twelve years ago had a large fluctuating swelling on one side over the ribs, just below the angle of the scapula. It did not communicate with the pleural cavity; lasting many months, it disappeared at length under the use of cod-liver oil internally, and tinct. iodi. externally.

Of the fifteen children, five died in infancy, the eldest of such being two and a half years. A first cousin, once removed, on the mother's side, Mary D——, æt. twenty, is now under my care. A small wizened girl; very fine bones; large upper lip; all the upper incisors gone; the left dorsal region is dull on percussion, and full of moist râles; she has had cough for many years; her father's family is phthisical.

The father of the X—— family died at seventy, of old organic heart disease; he was a country mason of untiring energy and industry, modest, courageous, and of fine physique. The mother is now alive, æt. sixty. She is a

woman of exceptionally fine physique, aquiline nose, high-spirited and energetic. Her left index-finger nail is hollow. The general physique of the family is remarkable: when young, the girls have none of that soft embonpoint, and rather sluggish intellect, common in country people of the west; they are quick to learn, modest in deportment, firm in character, instantly appreciative of delicate social form; they have small bones, thin skin, but little fat, wiry and untiring muscles; the sexual is in much abeyance; small mammæ. The sons are thin, but muscular men. The girls generally have the nose thin and straight, but flat on the nasal bones like the father; the sons have more the aquiline nose of the mother. I lately made a Sunday excursion to the home of this family, to learn their family history, and to see their cottage and its environment. I had been struck that Jessie X—— had died seven weeks after her return home; and, further, I knew that Sarah Jane X——'s health had been established for good after leaving her home.

Family History.—Mrs. X——, the widow, gave me the following information: Her husband was her second cousin. Her mother died of "inflammation" at sixty-six; her father from "brain fever" at fifty-five. Her husband's father died at eighty-eight; his mother at eighty-seven. Mrs. X—— had two brothers who died in infancy; one brother died at thirty, of English cholera; one brother, supposed to be alive in America, is eighty. Mrs. X—— has one sister alive, æt. sixty-four; another sister died at twenty-five, "from nothing appertaining to consumption." Mr. X—— had two brothers; one died of typhoid at forty-five; the other at seventy. His eldest sister died at eighty; his second sister is alive, æt. eighty-one, and is active and well. I saw this old lady, who was as active and bright as most women are at sixty. His third sister died, at about forty, of a fistula; his fourth sister died at fifty, cause not known. Mrs. X——'s mother had two brothers and three sisters, the whole of them pretty healthy, and lived to old age. Her grandfather and grandmother lived to very old age. Mrs. X—— said, "my father's mother lived nearly a century; my husband's grandmother ruptured a blood-vessel, which caused death." Mrs. X—— writes me: "I remember three generations in either side who lived about ——, and none died from consumption. No such thing was ever known in the X—— family before."

The cottage, which is part of the Dutchy domain, is stone-built, of thick walls and small windows. The down stairs has one main room, about twenty feet long, by sixteen feet deep, and seven feet high[1]; slate-stone floor, the hearth and chimney large. The upper room is equally divided into two by a partition. The inner division has an open hearth and chimney; the outer is directly open to the stairs. Each room has a small window; their height is about seven feet six inches. The inner room chimney was always kept closed by a chimney-board. The house is built on the side of a steep hill, near the bottom, and on slate rock. The hill of granite rises through the slate rock to a height of 1,100 feet, the slate reaching about one-third from the bottom. The cottage faces N W; the end towards the hill has no wall for its lower two-thirds, but is formed by the bare rock. The slate rock is in well-marked layers, running upward at about an angle of 20°; thus the upper end of the house, and the floor, would constantly receive the drainage, and always be damp. The back wall of the cottage abutted also on the slate rock of the hill for its entire height and length; a trench, two feet six inches wide, however, separated the back wall from the actual rock of the hill. It is obvious that the house must have been always damp; indeed, in the winters, water would trickle out of the slate cutting which formed the higher and immediate end of the house. The granite stairs abut on this cutting, and Sarah Jane X—— informs me that during the years of her growing up the stairs were usually wet in the winter months. Immediately adjoining the lower end of the cottage was a shallow well in the slate rock. It was sunk deeper a few years ago through slate rock; and as showing the great water-bearing character of the rock, this deep well never "runs dry," but supplies the village.

We all recognize that with animals, as with plants and trees, the greatest results follow the slow and insensible influences of environment; we know that plants and animals cannot survive under certain infinitely-delicate variations of their environment: and in the general delicacy and phthisical tendency of this family we cannot exclude the slow and deleterious influences of the deficient sunshine—with its vast energies on, and correlations with life—constant dampness, and re-breathed night air.[2]

Heredity.—Although no phthisis can be traced in this family for three generations, on both sides, not the less heredity cannot be excluded, for we are the children of a thousand and one generations. Darwin says ("Animals and Plants under Domestication," 1868, vol. ii., pages 372-3): "This principle of reversion is the most wonderful of all the attributes of inheritance. It proves to us that the transmission of a character and its development, which ordinarily go together and thus escape discrimination, are distinct powers; and these powers, in some cases, are even antagonistic, for each acts alternately in successive generations. . . . What can be more wonderful than that characters, which have disappeared during scores, or hundreds, or even thousands of generations, should suddenly reappear perfectly developed. . . ." We shall be as ready to view disease, such as phthisis, as a reversion, as we are to acknowledge the principle in the instances of the appearance of limbs, peculiarities of structure, colour, and even of character.

Type.—When Jessie X——, æt. twenty—who died seven weeks after her return to her parents cottage—came to me, her physical signs were slight; there was slight dulness on percussion on the right clavicular and infra-clavicular regions. Over the same area there were dry and moist bronchial râles, and at the end of the inspiration a short moist click. The left infra-clavicular region had capital resonance on percussion, some wheezing and cooing, and some moist râles. The left side had thus a purely bronchial affection; the right lung shewed mainly bronchial type. I have records of many cases which eventually passed into

[1] Mrs. X—— objected to having her rooms measured, but my estimate is pretty exact.

[2] In the cosmic evolution we see the wondrous differentiation of the lungs, with their vast area, on the surface of which the protoplasm, or blood, is brought in contact with the molecular potentialities and energies of the atmosphere. No other actions of life are so paramount as those of the atmosphere on the blood. They are in continuity with creation, or the evolution of life. We may be sure that the correlations of expiration are as orderly and determinate against the harmonies of life, as are the molecular changes of inspiration creative and correlative to life. Chemistry and experiment now promise us a more exact knowledge, both of the energies of the atmosphere and of the composition of expired air; but here again the instinct of man has taught him a right practice prior to the actual discoveries of science. The late Dr. McCormack, of Belfast, was an apostle on the subject of consumption being caused by re-breathed air.

phthisis, in which, even for years, there existed a hovering slight bronchial condition of one or both apices. The physical signs would be purely slight bronchial. It is only from wide general conditions of function and structure that one would be able to say that such cases tended to phthisis. A large proportion of those who eventually pass to phthisis, commence by these little bronchial cooings at the apices. *How* did it happen that Jessie X——, with so slight physical signs, and not wasted, died so rapidly? I see a great number of cases, with far more physical signs, who run along in slowly or hardly progressive phthisis for years. Jessie X—— had sallow complexion, flat nose, large upper lip, furrowed nails; she suffered from weakness, though not wasted; had had chorea when a child; had amenorrhœa. All these signs and symptoms exist in thousands who do not pass into phthisis. *How* then did she? Was the cottage a hastening cause? Was the bedroom, with closed chimney, a hastening cause? Health and life depend, in individuals, on immeasurably small variations or conditions of environment. Darwin says (*op. cit.*, p. 164): "Very slight changes in the position of a plant, whether planted on a bank or at its base, sometimes makes all the difference in its producing seed." He further says (*op. cit.*, p. 145): ". . . Everyone must have observed the remarkable influence on convalescents of a change of residence, and no medical man doubts the truth of this fact. Small farmers, who hold but little land, are convinced that their cattle derive great benefit from a change of pasture." Again he says (*op. cit.*, p. 148): "Life depending on, or consisting in, an incessant play of the most complex forces, it would appear that their action is in some way stimulated by slight changes in the circumstances to which each organism is exposed." In fact, immeasurably delicate changes in environment may be restorative or destructive to life. The function of respiration, filling so great a part of animal life, cannot but, in its products, hold most complex wastes and poisons; the vast lung tract has evolved, and survived, and exists, in part, in and with, the conditions of waste, orderly *débris*, and poisons to be carried off. Jessie X—— might well not survive in the lethal gases and volatile poisons of her chamber. Jane Anne X—— succumbed in the same chamber. Sarah Jane X—— left the cottage at twenty, when in early phthisis, and has always lived since with the best hygienic surroundings; her home, of late years, has been a large house on a hill, with ventilated staircase, and for many years she has never closed her room door at night.[3]

During many years I have made notes of every case of phthisis and prephthisis which has presented. I have tabulated them under different headings as representing peculiarities of structure and function. Having published abstracts of these notes,[4] I do not propose to summarise them now, but to refer to some points only. This phthisical family exhibited *atavism* and reversion, both in function and structure. In function, Jessie, Jane Anne, Emily, and Sarah Jane, all had scant menses or complete amenorrhœa. Emily and Sarah Jane, suffered much from sinking at the epigastrium and spasms; also, though muscularly strong, they had much feeling of weakness. These symptoms, which exist in them over periods of years, indicate a deficient vital energy of protoplasm. It is the greatest error to view the amenorrhœa as mainly dependent on conditions of the ovaries, etc.; or to view the epigastric sinking as mainly dependent on nerve or other organ located there; they are symptoms involving the ultimate nature, modes, and energy of the entire protoplasm and its differentiations. The same—nearly—conditions of protoplasm and its energy, which lead to feeling of epigastric sinking in Emily and Sarah Jane, are those which have resulted in fatal phthisis in Jessie and Jane Anne. Then, as to *atavism* in structure, the mother has her left index-finger nail hollow; Emily, Jane Anne, and Sarah Jane have transverse furrows across their nails. I have often observed, that in families where phthisis has prevailed in some members of the family, that other members have transverse ridges on their nails. I have often rightly guessed phthisis in cases, from a glance at the patient's unduly large cold hands: few symptoms are more important, in those who tend to phthisis, than that of cold feet at night. Jessie X—— had flatness of the nasal bones. I cannot doubt that there is a marked correlation between phthisis and a somewhat large formation of the terminal cartilages of the nose, with a want of symmetry between the two sides, and stillness of the alæ nasi. I have very frequently noticed, that in phthisical families, the two upper lateral incisors are small, and even conical in other members of the same families. When we see disturbed function, such as amenorrhœa, indigestion, weakness, coldness, extending, more or less, over years; and, further, when we remember, that these disturbed functions involve the deepest parts of the organic evolution, *e.g.*, the sexual function, the animal heat, etc.; and yet, further, when we see that these disturbed functions correlate with peculiarities of structure, even of the bone system, we shall conclude that phthisis is, in the widest sense, a general disease, and that the lung mischief is a sequelæ and minor part of the complex series. In the whole range of the phenomena, physiological and pathological continuity are revealed to our view.

Treatment.—One of my strongest therapeutic convictions is, that I have seen a great number of young people who had symptoms of præphthisis, and even slight physical signs of phthisis, get well from a month or two's change of air. What Darwin says on the vast power for good, on plants and animals—even determining their sterility or fecundity—of slight changes of environment, is equally true of man. Young people, who have been long failing in the climate of South Devon, will be quite restored by a month or two's stay on Dartmoor, or in the south-eastern counties, etc. In the cosmic evolution, science has not yet recognised the potentialities, correlations, and essential partship of the atmosphere to protoplasm, and to its health and energies; but a right practice, based on human experience, often precedes its scientific explanation. I have been forced to conclude that it is often right to yield to the instincts and fancies of patients as to their diet. Hundreds of præphthisical and phthisical patients have told me of their craving for onions; they also long for

[3] In India, bedroom doors are often not closed. A screen—parda—of cloth hangs at the door-place. It is often so arranged as neither to reach the top or bottom of the door space. In the West Indies, the partitions of bedrooms, etc., do not reach the ceilings. Refined ladies and girls are not alarmed at these freer arrangements; but in England, warmth is essential. I often advise people to ventilate their staircases at night, by opening one or more windows in it a few inches; the bedroom doors can be made secure by the chain fastener on the inside. Thus the bedroom doors are open three or four inches all night to the pure air of the staircase; the regulators of the bedroom grates should, of course, always be open. A very pure air in bedrooms can be attained in this way. One cannot lay too much stress on this slow, but all-powerful, influence of the slighest causes, both toward health and toward disease.

[4] *Medical Times and Gazette*, 1882; *Medical Press and Circular*, 1884.

vinegar, salt meat, salt fish, dutch cheese, etc. I suspect that the waning and feeble energy of protoplasm gets an access of molecular energy from the different modes of the molecular motions of the varied aromatic groups in the onion. The distaste for fats and fresh meat, and the liking for salted foods, though not yet explicable, point toward the method of the pathology of phthisis. My usual prescription is quinine and muriatic acid. It is rare for the patients to say other but that they are much benefited. In many hundreds of cases I have combined arsenic with the above, and I have never yet seen evil from its use.

Recurring to the X—— family, it was seen that scant menses and complete amenorrhœa existed in different cases. I should strictly avoid giving iron in such cases with a view to restore the menstrual function. I should view the amenorrhœa as a result of the most general conditions—of the most fundamental lack of energy in protoplasm—and should seek by the most ordinary and gentle means to restore the general health and vigour by change of air, change of food, new scenes, malt extract, cod-liver oil, etc. I see a great number of the poorer classes in phthisis, who remain much in the same condition for years even. They are forced to go out of doors a good deal, and to take exercise, in the care of their families. They get on a great deal better than do the richer classes: in other words, they survive because they live in contact with the energies and conditions of the evolution of protoplasm —sunlight, air, rain, and the different modes of energy in constant action in the atmosphere. To pour in iron in these cases of scant menses and amenorrhœa, and thus to disturb the delicate equipoise of the complex correlations of their protoplasm seems to me to be a most hazardous and unwise practice. One may force the menstrual function, but hasten the death of the individual. The great master, Trousseau, cautions us against the use of iron in such cases. About fifteen years ago a young woman of twenty-one, of beautiful features and build, came under my care for amenorrhœa and chronic enlargement of the glands of the neck. I ventured on iron. I fear that I thus disturbed the habituated and harmonious correlations of her protoplasm. She developed rapid phthisis of both lungs, and died. Bowing before Trousseau, and following my own deductions from the cosmic breadth and infinite delicacy of the correlations and harmonies of process which exist in protoplasm, and constitute health, I have, since that fatal case, shunned iron in all cases where a suspicion of future phthisis could be entertained. I lately, however, became a backslider under temptation, and I fear with calamitous results. On October 13th, 1888, F. Z—— female, æt. twenty, came under my care. She had never menstruated. I found that she had been under medical treatment by another practitioner, who viewed her case as "never menstruated; palpitation; anæmia; giddiness." He prescribed:

℞ Tinct. ferr. mur. ..... ℥ ½
Tinct. nucis. vom. ..... ʒ ij.
Spirit æther chl. ..... ʒ ij.
Tinct. digitalis ..... ʒ ij.
Quin. sulph. ..... gr. xij.
Aq. ..... ℥ xij.
℔ A tablespoonful three times a day.
Pil. aloes c. ferr., gr. v. every morning.

I thought that I might possibly be cherishing a "fad" in my fear of iron, and therefore continued the treatment, omitting the digitalis from the mixture. I ordered her, in addition, half an ounce of cod-liver oil at night. I continued such modified treatment from October 13th, 1888, to the end of January, 1889. I lost sight of her then until the 22nd of March, when I resumed the same treatment. She was a plump, well-nourished girl, of good height and build. Her face was somewhat pale, and yet with some colour, and of a waxy type. The teeth were good and sound; the nose was well chiselled; the alæ nasi still; the external organs of generation, vagina, and uterus, were normal; the lungs were perfectly sound; the infra-clavicular regions and thorax well-developed.

On April 10th she spoke of having a slight cough. She was not wasted—on the contrary, was plump, as healthy young girls of that age should be. I found that the left infra-clavicular region had distinct crepitation, but no recognisable dulness on percussion. I now suspended the iron, and prescribed:

Quinine sulph. ..... gr. xx.
Acid. muriat. dil. ..... ʒ v.
Infus. quassiæ ad. ..... ℥ x.
℔ 20 doses. One dose three times a day.

The cod-liver oil was continued.

On May 30th, the left infra-clavicular region had not equal resonance on percussion to the right, but it was good; the breath-sounds soft, but with some sub-crepitant râle at end of inspiratory sound.

July 17th.—The left infra-clavicular region has harsh inspiratory sound, and sub-crepitant moist râles; also it has impaired resonance on percussion. The amenorrhœa remains complete. Phthisis has evolved, and is distinctly developing in the left lung. She is not wasted—on the contrary, is fully plump.

I do not assert that the iron upset the harmony of the correlations of this girls' protoplasm, and led to the evolution of phthisis; but I do feel that it was unscientific on my part, where the equipoise of vital process was so delicate and hovering, to disturb its correlations, except by the most gentle and gradual application of the tonic regimen—that is, of those energies which are parts of, or the media of, the evolution and sustentation of life—viz., sunshine, atmospheric exposure, exercise, change of environment, etc. For months I in vain urged this young woman to leave Plymouth for a month or two, and thus to apply the greatest of all restoratives—viz., change of air.

In the nebular condensation the atmosphere remains in that molecular condition, and with those energies, in and of which—in part—protoplasm has evolved and is evolving. Creation is still in process, in continuity with the Forms and laws of the past. The atmosphere is pervaded with cosmic energies; it is a sphere of infinite activities and energies—heat, light, electricity, and the vast chemical molecular energies, etc. The vast power which change of air has over protoplasm is probably the result of the fitness of the altered physical correlations contained in such change to the capacity for receptivity of the vito-chemical modes of protoplasm. As before remarked, protoplasm and the organic have evolved very much in and of the energies of the atmosphere. The varied conditions and changes of the energies of the atmosphere have therefore a natural fitness to and harmony with the vito-chemical molecular receptivities of protoplasm. But whatever be the profounder and more exact science of change of air, it is a continually recurring experience here that young people, hovering toward phthisis, are permanently benefited by carrying out the practice.

In this scattered paper I hope that I have so far viewed phthisis in just relation to wider views of biology and vito-physics, and in harmony with the deductive Forms of Continuity and Evolution.

ON THE REMOVAL OF RENAL CALCULI BY TOXIC DOSES OF BELLADONNA.

By Dr. W. Murray,
NEWCASTLE-ON-TYNE.

The treatment of renal affections by belladonna has been accepted by the profession for many years, and the efficacy of the drug in relieving renal pain is well established. The pain produced by renal calculi and renal colic is more effectively relieved by belladonna than by any other drug, opium not excepted—at least that is my experience. I was led to infer that something more than mere relief of pain might be expected, by considering the analogous condition of bowel obstruction, in which belladonna has proved so marvellously successful, and the essential point of this treatment consists in following out the analogy between the two cases. In cases of bowel obstruction, we push the treatment far beyond the mere anodyne effects of the drug, until the obstruction gives way. In cases of renal colic we have been content when the agony has subsided. I contend that we have erred in thus stopping short of more decided results; and that if the drug be administered sufficiently long, and in large enough doses, the entire removal of the calculus—first from the pelvis of the kidneys to the bladder, and then from the bladder *per* urethram—often follows.

I will not attempt to theorise on the exact physiological process by which the above results are brought about, either in the case of the bowel or in the case of the renal passage; it seems, however, as if the drug combined in itself the power to relieve spasmodic contraction on the one hand, and produce peristaltic action on the other. Perhaps someone more fully acquainted with physiological therapeutics will enlighten us on this point.

I must, however, proceed to substantiate the above views by quoting some cases in which such striking results were obtained, as to establish the link of causation between the administration of the drug and the removal of the calculus. Let me quote three cases in point:—

Mrs. E—— had suffered for several months from repeated attacks of renal colic. During the last of these attacks I was called in, and found her in the agony of a severe attack. Belladonna was administered until decided toxical effects were produced, and the patient was relieved of her sufferings as soon as the drug began to show its physiological action on the eye and throat. It was then pushed until she was fully under its influence, and in a few hours the stone passed into the utensil with the usual satisfactory click—a lithicacid calculus—as large as a small almond.

The next case was that of a young engineer, who had suffered long and severely from renal pain, with occasional attacks of true renal colic. He had been treated by an experienced practitioner without much relief. I advised the administration of forty drops of tincture of belladonna, to be repeated every hour, or every two hours, until dilatation of the pupil, dryness of the throat, and delirium were produced. This treatment was commenced in the afternoon, and during the night following he passed a calculus as large as a bean. It is to be noted that the treatment gave speedy relief of pain, but not content with this, the effect of the drug was kept up so as to ensure the passage of the stone.

The third case was that of a youth, who suffered so severely from renal pain, that it was determined at a consultation of the staff of the Royal Infirmary at Newcastle, to remove the calculus by operation. Before consenting to the operation, his parents brought him to me; I suggested the belladonna treatment, promising to send him to the hospital again if it failed. In this case twenty drops of tincture of belladonna were given at intervals of an hour, and at the end of four or five hours he passed a round and rough calculus, composed of urates; and I was able to send the boy to the hospital to present the stone to Mr. Page, from whom I received liberal congratulations.

These cases I maintain are sufficiently striking to arrest our attention, and tend to establish the fact that belladonna relieves the pain of renal colic, and by its peculiar action on the muscular fibres of the urinary passages, remove the stone.

In the present state of pharmacology we cannot say what its precise mode of action may be. It may act by simply paralysing the circular muscular fibres of these canals, thus allowing the stone to be washed out by the urine; or while paralysing the circular fibres it may stimulate the longitudinal fibres. The special point to be remembered is that we are to push the drug to its toxical stage, and keep up its action after the pain has been relieved, until a fair time has been allowed for the expulsion of the stone. We may begin with a forty-drop dose of the tincture, and repeat it every two hours, increasing or diminishing the dose according to its effect on the patient.

NEUROTIC GANGRENE (?) SIMULATING RAYNAUD'S DISEASE.

By W. Alexander, M.D., Brigade-Surgeon.

It is difficult to arrive at a satisfactory diagnosis in some, indeed in many affections. The case from which the following notes were taken was one of these, and I found it impossible to say definitely whether it was one of purpura or a case of Raynaud's disease, as it partook of the nature of each, but was in some respects different from either. The purpuric-like spots, the hæmorrhage from the bowels, the sloughs on the buttocks, pointed somewhat to the former; but the history of the case, previous good health, hygienic surroundings, and good dietetic arrangements, are strongly against that theory. On the other hand, the peripheral character of the lesions, the pre-existence of burning pains, and other neurosis, and the undoubted gangrene, point to some form of Reynaud's disease.

At the Glasgow meeting of the British Medical Association, Dr. Affleck brought forward two cases, which were afterwards published in the *British Medical Journal*, and the striking similarity in some of the symptoms induced me to show the boy to Dr. Affleck, with a view of getting the benefit of his experience as to diagnosis. I am indebted to him for his kind courtesy.

One thing struck me as common to the three cases, undoubtedly so in two, and presumably in the third, which pointed to a possible common cause—viz., the habit of eating sweetmeats.

J. H., æt. ten, was an exceptionally healthy and sturdy boy till the commencement of present illness, lived in comfortable quarters, with hygienic conditions good, and was fed regularly with good wholesome food. Parents healthy, but mother suffered severely from rheumatic fever some years ago.

April 6th.—I was called in to see him, and found his lower extremities covered with patches of various sizes, of a bright red colour, circular in form, and not removable by pressure. Tongue thickly coated, pulse very rapid, temp. 101. Prescribed calomel, to be followed by ol. ricine and other treatment.

April 11th.—Spots gradually fading away from legs, but painful swellings have been occurring in various parts—first right elbow, then left, the swellings extending up course of large vessels. The outer side of right thigh was also affected. These swellings are characterised by burning heat and redness. The scrotum and right eyelid have also been affected with considerable discoloration. These painful swellings are evanescent, coming suddenly with greater pain and constitutional disturbance, and subsiding rapidly when there is no hæmorrhagic effusion. Prescribed calomel. Bowels constipated and tongue dry.

April 12th.—Found the back of right hand much swollen and discoloured, the left eyelid in a similar condition. Pupils of both eyes much dilated and insensible to light. Urine scanty and turbid, but no albumen. Prescribed ext. ergot liq.

April 13th.—Back of hand much swollen and very dark. Penis also similarly affected. Treatment, tinct. ferri perchlor. and ext. ergotæ.

April 14th.—Several fresh shots of petechiæ on lower extremities and buttocks. Back of hand hard and black, with large bullæ. Several swellings answering to the description of erythema nodosurra have appeared on forehead and legs. A patch on each buttock, with dark centre.

April 15th.—Forearm and right elbow much swollen, and purple; pulse fresh, temp. normal. Bowels regulated as required.

April 17th.—Left eyelid going to slough. To-day considerable amount of passive hæmorrhage from bowels, which continued for several days.

April 20th.—Condition improved, but several sloughs are separating from left eyelid, back of right hand and penis.

April 24th.—No further hæmorrhage; tongue, which has been foul and parched is clearing, except at the tip. Patches on buttocks have separated and give trouble on account of their position. Treatment, iron, quinine, and ergot.

May 3rd.—General condition improving; large sphacelative surface on back of hand still in position, being bound down by the vessels and sheaths of tendons, the others coming away.

After this date he gradually improved. The large slough on the back of the hand came away, leaving the tendons exposed, all superficial vessels and nerves having been destroyed, the lower portion of skin of penis also separated, and the slough from left eyelid, but all healed without trouble.

May 18th.—After being about for some days, the boy developed a swollen and painful condition of scrotum; right ankle also became swollen and discoloured and hot, whilst the anterior portion and toes were very cold. There is apparently an impediment to the circulation in lower extremities.

After remaining in bed a few days, the condition passed away, and the boy gradually rejoined his companions and continued his pursuits and pleasures; but at the date of writing there is still a large unhealed patch on the back of the hand, due, no doubt, to the working of the tendons, which lie embedded in cicatricial products, but otherwise the boy is in good health.

In the case under observation the boy was freely provided with pocket money, all of which he spent in sweetmeats; and I am inclined to think that possibly in these the cause of this obscure affection may be found. Throughout I considered the *fouset origo mali* a central necrosis.

THE USE OF ANTIPYRIN IN THE TREATMENT OF SEA-SICKNESS.

By George G. Parsons, L.R.C.P. Lond., M.R.C.S., L.S.A., surgeon, ocean s.s. co.'s service.

Although sea-sickness is usually a trivial affection, yet when long continued, or when occurring in debilitated subjects, it may occasion dangerous exhaustion. It may also be followed by an attack of *delirium tremens* when occurring in persons of intemperate habits. The effectual treatment of sea-sickness is a matter therefore of some importance. The drugs which have been chiefly recommended for this purpose include the bromides, bismuth, chloral, cocaine, nitrite of amyl, etc. After an extended trial I have found them all more or less ineffectual. Of late I have employed antipyrin in the prophylaxis, and treatment of sea-sickness with considerable success. Of a series of twenty cases so treated, twelve entirely escaped sickness, while with the remainder the attack was markedly reduced in intensity, and shortened in duration as compared with former experiences. My plan is to administer five grains of antipyrin, freshly dissolved in a wine glass full of water at the time of embarking, and to repeat the dose in four hours. As a rule three doses at most are required. In these severe cases where nothing can be retained in the stomach, the antipyrin may be administered hypodermically, and in such cases the application of a small blister or mustard leaf over the epigastrium is usually of marked benefit.

ON THE APPLICATION OF ANÆSTHETICS IN NATURAL LABOUR.[1]

By M. Charpentier, M.D., Paris,

(*Continued from p.* 404.)

Campbell and Dutertre admit an action almost analogous.

1. *Initial and General Relief*—characterised by a slight effacement of self, and the production of physical and moral calm, by the diminution of circum-uterine or parapelvien pain. The true pains seem to concentrate in the uterus. The contractions are still painfully felt. The pulse is calm, the respiration regular; the woman understands and obeys the voice, but she has a sensation of *bien-etre*, which consoles and sustains her.

2. If the inhalations be continued, a period of complete analgesia supervenes, of semi-insensibility, characterised by weakness of pains. The parturient feels less, and a certain diminution in the intensity and frequency of the contractions is produced.

3. *Period of Complete Analgesia.*—The pain completely disappears. It is to this degree that obstetrical anæsthesia should be pushed; a few more inhalations, and we reach true narcosis. If one may rely on individual experience, this is what I have observed.

(1) Chloroform given in small doses produces incontestably what Campbell calls a period of initial relief—that is to say, a physical and moral state of calm.

(2) Pushed to a more advanced degree and for a longer time, chloroform, in the majority of cases, diminishes uterine pain; the patient feels less; intelligence is partly preserved, with other well known symptoms of ease.

(3) As regards the period of total analgesia, we have never observed that the patient was completely anæsthetised.

(4) In some cases, whatever the form of administration or

[1] A paper read at Obstetrical and Gynæcological Society, Paris, May 22nd, 1889, and published in the Bulletins of the Society.

dose, chloroform not only does not soothe, but brings on such over-excitement that we are obliged to give it up.

(5) In other cases chloroform appeared to us to weaken in a very decided manner the uterine contractility, and thus to determine more or less serious hæmorrhage after the labour.

(6) Its action on the infant has been *nil.*

(7) Chloroform administered during period of expulsion induces a certain amount of relief; but its action on contraction of the abdominal muscles, and on the resistance of the perinæum, appears to be less manifest than is generally admitted. The sensation of pain is not completely abolished; the contractions are frequent.

Indications.—We believe that in practice chloroform will be found of a great service, without wishing to apply it in all natural labours. Our *role* is above all to diminish the sufferings of our patients. If the woman to whom we are summoned feels relieved, either as a single effect of imagination, as some authors suggest, or through the action of the chloroform, the question is settled. I do not propose chloroform for every natural labour, except for certain indications, which I shall pass in review; but if the patient demands it, I believe that we have no right to refuse her a medicine which gives her actual relief.

Special Indications.—It is especially indicated in two cases. (1) In primiparæ, in certain nervous women whom pain excites to a high degree, in whom the painful manifestations are accompanied by excessive agitation, which may run into delirium; in those whom labour is prolonged, bringing on fatigue, which may not be without danger.

(2) When there is spasm, contraction, spastic rigidity of the neck or body of the uterus. These are the true indications for chloroform, and to administer chloroformic inhalations under these conditions is good practice. Besides the calm induced by the anæsthetic, these spasms—and contractions almost tetanic—yield rapidly; the labour takes a regular course, and promptly terminates, to the great benefit of mother and child.

Contra-Indications. — When the labour is normal and regular, the patient multiparous, the pains moderate, we may resist the importunity of the patient, and seek to gain time by insisting on the disadvantages of the agent. We reject it absolutely in all cases of hæmorrhage (placenta prævia), considerable weakness, in affections, of the circulatory and respiratory organs, of the brain, in alcoholism, etc. If manual or instrumental intervention be necessary, we use chloroform, but not in obstetrical doses. We want *true surgical nerosis,* and I obtain it.

The Time of Application.—Obstetrical anæsthesia finds its employment during the *period of dilatation.* At this time the reflexes are generally most intense; the agitation is greater, and the pains are more severely felt by the patients. It is then that chloroform gives most relief, producing, as Campbell points out, a state of well-being. There is absolute repose in the interval of the contractions, and disappearance of the general feeling of pain.

During the Period of Expulsion.—The woman requires to preserve the integrity of her will to aid uterine effort by the action of the abdominal muscles. Now if we continue the chloroform up to a certain time, even in small doses, we rapidly pass anæsthesia, and produce complete analgesia with absolute loss of consciousness. It is better at this period, we think, to have recourse to local anæsthetics which have a real value. The most pusillaminous woman takes note of the progress of her labour; she gains fresh courage; and numbers of times we have seen women who had demanded chloroform during the period of dilatation reject it during the period of expulsion.

Accidents due to Obstetrical Anæsthesia.—If obstetrical anæsthesia offers some real advantages, it is not always without its inconveniences. It is reproached with provoking nausea, vomiting, cephalalgia, various nervous complications, and with predisposing to puerperal accidents. Some of the former symptoms may depend on chloroform, but they are not serious. To attribute puerperal complications to chloroform, however, is a gross error. There are a number of other complications which have a more real connection with chloroform.

(1) *Hæmorrhage.*—Some authors accuse chloroform of producing hæmorrhage. That may be true when we push it to complete narcosis, and I have seen examples of it; but it is not true of pure and simple obstetrical anæsthesia, since it leaves uterine contractility in all its integrity.

(2) *Eclampsia.*—Chloroform cannot be incriminated for this condition, as it is one of the best methods of treatment.

(3) *Puerperal Mania.*—Puerperal mania occurs in subjects predisposed to it by heredity. Labour is only a determining cause, by the nervous excitement which it produces; and chloroform, by diminishing nervous excitement, is much more likely to prevent than produce puerperal mania.

(4) *Cardiac Syncope. Respiratory Syncope. Sudden Death.* Dutertre, who has collected all the cases of death attributed to chloroform, cites forty, borrowed from different authors. Out of this forty he eliminates thirteen in which death might be attributed to other causes. There still remain twenty-seven deaths absolutely attributable to chloroform. But in studying them we see that the women were suffering from cardiac or respiratory affections, or were alcoholised, and that the chloroform was pushed beyond the obstetrical dose. We may say that these accidents are comparatively rare, but in view of them we must take precautions against their occurrence.

Alcoholic Ebriety, Transient Delirium.—A few months ago I observed a curious case. A young woman, nineteen years of age, for a quarter of an hour was given chloroform which was admirably borne, and which was hardly pushed even to complete loss of consciousness. She woke up happy and gay and calm, in full possession of intelligence, and was able to talk about what happened to her. Two hours afterwards she was taken with delirium, the delirium of joy, during which the following words were continually repeated. "What happiness we must announce the good news." There was no derangement of the stomach, no rise of temperature; there was a slight rise of the pulse. This state lasted three hours. The delirium, which we can only attribute to chloroform ebriety, disappeared without the patient being conscious of it, and without any bad after-effects. I may add that this patient subsequently took chloroform up to complete surgical anæsthesia without any complication. It is generally admitted that women in labour enjoy a certain immunity as regards chloroform, and many theories have been suggested to account for it.

Chloroform and the Infant.—If it be true that chloroform penetrates by endosmosis through the placenta into the fœtal circulation, it is rarely found even in very small quantity. It exercises only a very slight influence on the fœtal heart; it does not cause the death of the fœtus, nor even jaundice of the newly born.

Mode of administration dosage.—The first condition is to employ chloroform chemically pure.

(*To be continued.*)

TREATMENT OF UTERINE CANCER.[1]

By Thos. More Madden, M.D., F.R.C.S. Ed.,

OBSTETRIC PHYSICIAN MATER MISERICORDIA HOSPITAL, DUBLIN; EXAMINER IN MIDWIFERY CONJOINT EXAMINATION BOARD; EX-PRESIDENT OF THE OBSTETRIC SECTION OF THE BRITISH MEDICAL ASSOCIATION, AND THE ROYAL ACADEMY OF MEDICINE; FORMERLY VICE-PRESIDENT BRITISH GYNÆCOLOGICAL SOCIETY, ETC., ETC.

In view of the rapidly increasing prevalence of cancer in these countries within the past few years, the treatment of one of the most frequent forms of this malady is deserving of re-discussion at this time. The actuality of that increase is unfortunately proved by the last published decennial reports of the Registrar General for England and Ireland, from which we learn that in the eleven years, 1877-87, the annual death-rate from cancer in England and Wales, among persons aged upwards of twenty-five years, was 1,186 per million; and the rate increased steadily year by year from 1,079 in 1877 to 1,331 in 1887. In Ireland, on the other hand, the mean annual rate in the same eleven years at the same ages was 828 per million; and the rates in the several years fluctuated more than they did in England, but ranged between 741 in 1880 and 935 in 1887.

In dealing with a disease so intractable and ultimately fatal in its course as cancer, it is, I think, the duty of every physician who has sufficient experience of any method of treatment still *sub judice* to publish as fully as possible the results of his practice, and the grounds on which it has been adopted, for the judgment of his professional brethren, even if the former should be deemed unsatisfactory, or the latter be found trite. Hence, having elsewhere discussed this subject at some length, I now venture to submit for your consideration a few observations borne out by my more recent clinical experience in the gynæcological wards of the Mater Misericordiæ Hospital, where a large number of cases of uterine cancer have come under my observation. In the great majority of these, the disease originated in the cervix, and in many it remained localised therein for a considerable period, and was arrested by the amputation of the affected part of the uterus. I therefore desire to urge the advantages of timely removal of the cervix in all such cases, as contrasted with the results of the subsequent extirpation of the entire uterus, whether by vaginal or abdominal methods.

The results of the latter operation, as may be gathered from the subsequent observations, are hardly calculated to favour their general adoption, even in cases so hopeless as those in which they are commonly resorted to. Another alternative to either of these operations has been recently suggested—namely, the application of a powerful interrupted voltaic current, which, acting apparently as a powerful thermo-cautery or escharotic on the specific malignant elements—whether germ cells or microbes—in the cancer infiltrated cells, may therefore, as I think, be regarded as an improved modification of the older escharotic treatment long since advocated—chloride of zinc, arrows, and other cautics formerly advocated being now replaced by the more potent galvano-cautery, directly applied to the diseased part in the manner recommended by Dr. Parsons, of the Chelsea Hospital for Women, in the *British Medical Journal*, April 24th, 1889. The effects in such cases, if produced by the action of the strong electric current—as judged from Dr. Parsons' experience of its use in four cases of cancer, in one of which the disease was uterine, and the cervix almost completely destroyed—"consists," he says, of a cessation of a growth, gradual disappearance of pain, some shrinking and hardening of the tumour and enlarged glands, followed by improved nutrition and better state of the general health. The growth, as a whole, does not disappear, but remains as an inert mass, composed in all probability of a fibrous tissue alone. Before treating these cases, I felt almost sure that this would be the case, because I had found by a number of experiments, detailed in the paper before referred to, and also from treating a large pelvic fibroma by galvano-puncture in 1887, that neither could electricity decompose the fibrous tissue of new growths (whatever it might do with cicatricial tissue), nor could the system cause its absorption after it had been rendered inert. However, it will always be open to patients to have the remains of the growth removed subsequently by the knife. The advantages claimed for this method of treatment are as follows: (1) "There is no destruction to the normal tissues of the body; and if recurrence should at any time occur, its progress can be immediately stopped, and the treatment repeated as many times as necessary. Life would by this means be prolonged indefinitely, provided that metastatic deposits had not occured before the commencement of the treatment. So far, cases able to bear the full strength required have shown no signs of recurrence. (2) Patients are not obliged to lie up, but are able to get about on the day following the application. (3) The current can be passed through almost any part of the body, and thus arrest growths which could not by any possibility be otherwise treated." Up to the present, however, this method of treatment—although, as I believe, full of promise—rests on far too limited clinical experience to allow any positive conclusions being arrived at as to its absolute value. Meanwhile, it may not be useless to review the respective utility of other remedial measures which may be employed in the cases now under consideration.

First, therefore, with regard to amputation of the cervix in the early stages of uterine cancer, the fact should not be lost sight of that in a very large proportion of instances the starting point of the disease is distinctly traceable, as Dr. Emmett has pointed out, to pathological changes commencing within the cicatricial tissues, resulting from parturient lacerations in the cervix uteri.

Dr. John Williams has clearly described microscopical evidences of the gradual transition from healthy to the malignant structure in his Harveian Lectures; and Mr. Jonathan Hutchinson points out that in many cases the first stage of cancer is that of inflammation, that all inflammations are infective, and inflammatory processes may pass by almost imperceptible gradation into malignancy. "In more than three hundred cases of cancer of the cervix, of which I have notes," observes Dr. Reamy, of Philadelphia, "but one occurred in a virgin, and but ten in married women, in whose cases I could obtain no evidence of abortion or child-bearing. Can anyone deny that such facts point strongly to the local origin of cancer, in these cases at least? And can it be doubted that injuries inflicted upon the cervix during parturition have a direct or remote connection with this origin?" Many years earlier the late Professor Montgomery, in a paper on the "Incipient Stages of Cancer of the Womb," pointed out that, as a general rule, the first discoverable morbid change, which is the forerunner of

[1] Abstract of a paper read at Leeds Meeting of the British Medical Association, August, 1889.

cancerous affections of the uterus, takes place in and around the muciparous glandulæ, or ova nabottri, in the cervix and margin of the os uteri.

Rokitansky remarked that cancer of the uterus generally limits itself to the vaginal portion and cervix in a defined and sharp manner. And he further observes: "The primitive seat of cancer is always the cervix uteri, and first of all the vaginal portion. The primary appearance of cancer in the functus uteri is limited to such extremely rare cases that we have just said remains a fixed rule." The late Sir James Simpson supported the same view, and in support of it quoted Dr. Walshe's observation: "Uterine cancer is commonly primary, and possessed of comparatively slight tendency to contaminate the system generally. In two important respects, therefore, uterine cancer presents conditions favourable for surgical interference. Still, however, in order that a case may offer any chance of success, several conditions seem requisite—viz., the diseases must be in an early stage; and secondly, the morbid structure must be distinctly situated below the line of reflection of the vagina upon the cervix uteri. The above combination of circumstances is seldom met with, because the medical attendant is rarely consulted until the disease has passed the limits in question. Nevertheless, of eight cases referred to in Simpson's monograph here cited, in which he thus amputated the cervix, seven recovered perfectly.

A similar conclusion is supported by more modern authorities, and as Hart and Barbour point out, we may, in accordance with the researches of Klebs, Waldeyer, Virchow, and others, trace the origin of all those malignant growths either to the cervical epithelium of the cervical glands, the deepest layers of squamous epithelium on the vaginal aspect of the cervix, the connective-tissue cells of the cervix or the epithelium of the cervical canal. With regard to the subsequent course of the disease, however, the evidence of later authorities is less unanimous and less satisfactory on this point. Thus, for instance, whilst, according to a recent editorial *resumé* of this subject in the *British Medical Journal*, Dr. John Williams maintains that the disease does not tend to spread upwards from the cervix, but rather laterally towards the broad ligaments and vault of vagina.

Recurrence after amputation takes place, as a rule, in the neighbouring connective tissue, and but rarely in the stump. Hence that authority's preference for supra-vaginal amputation of the cervix. The Germans are mostly opposed to this practice. Dr. Abel, after examining seven uteri extirpated by Professor Landan for cancer of the cervix, found malignant degeneration of the endometrium in all. Dr. Fränkel examined six cancerous uteri, and found that whilst the cervix was cancerous, the uterus was affected with glandular and interstitial endometritis: in other words, the endometrium was not cancerous. On the ground of the general pathological changes which he detected, he nevertheless advocated total extirpation of the uterus. His argument in this respect appears as weak as Dr. Abel's is strong.

Dr. Klein in similar cases observed changes in the endometrium, which he held to be inflammatory, not malignant, yet insisted that total extirpation was demanded in cancer of the cervix whenever that severe proceeding was practically feasible. Consistency of principles as applied to the results of observations, adds the writer quoted, therefore rests with Dr. Abel and Dr. John Williams; unfortunately, their conclusions are diametrically opposite. We need more observations on the condition of the endometrium in cancer of the cervix, and more records of after-histories where either of the above-mentioned operations have been undertaken with success." In this, however, lies the main difficulty with regard to this question, it being, as I have found by long experience, as a rule, extremely difficult to follow the history of our hospital cases once they are lost sight of after their discharge from the wards.

In my own practice I have during the past ten years only succeeded in tracing that history with more or less accuracy in twenty-two cases in which during that time I have amputated the cervix for cancer, or what I believed to be incipient cancer. In all these instances the patients thus treated recovered from the immediate effects of the operation, and were discharged as convalescent. In four of them the disease recurred either in the uterus or elsewhere within a year; in two it returned within two years; in one instance the patient returned two and a half years subsequently with a large cancerous ulcer of leg, from which she died shortly afterwards. In another it recurred two years later. Fourteen cases have continued, so far as could be learned, in good health after the operation.

These results must, I think, considering the nature of the disease for which the operation was resorted to, and the results of other methods of treatment, be regarded as fairly satisfactory. The question, however, of the general expediency of these respective plans of treatment in cases of uterus cancer can only be determined on similar principles to those which are commonly recognised and acted on in the treatment of other forms of malignant disease. Thus, for instance, no surgeon would be justified in amputating the cervix in cases where cancerous cachexia was well established, or where the disease was either developing with unusual force and rapidity, or had evidently extended beyond the cervical zone.

The constitutional symptoms of uterine cancer in its later stages need not be here enlarged upon, being general emaciation, sharp, pinched, anxious facial expression; yellow, semi-jaundiced discoloration of the whole surface, and the well-marked hectic and other unmistakable evidences of the cancerous cachexia. Nor in this connection is it necessary to dwell on the evidences revealed by local examination, when cancer has extended beyond the cervical zone, and when the characteristic pain, hæmorrhage, and pain, as well as the symptoms caused by the pressure of the enlarged displaced or adherent cancerous uterus, or consequent on the extension of the disease to adjacent parts, leave no room either for doubt as to the little hope as to the prognosis of the case. Once the cervical disease has attained the ulcerative stage, there can be no question as to its detection, though then commonly, but too late, when, on digital examination, the cervix is found lower than normal, the uterus being bound down in the pelvic cavity by adhesions to the surrounding tissues; the os open, its lips, if not already destroyed, tumefied, or else perhaps presenting the stony hardness characteristic of the schirrus form of disease. The cervical structure is then more or less deeply excavated; occasionally the entire os and cervix being thus eaten away before any suspicion of the nature of the case has called for examination. By the speculum, the characteristic, foul, irregular corroded ulcer, covered with a grey viscid putrilage, now comes into view; whilst if any possible doubt could then exist, this would be cleared up by the presence of the peculiarly fœtid ichorous or watery discharges attendant on open cervical cancer.

What I would, however, again desire to impress here is the possibility of recognising the earliest incipient stage of cervical cancer, long before any pain, hæmorrhage, or characteristics is observable, by evidences which were well described by the late Dr. Montgomery, but which are too often passed over by later writers, as well as by microscopic examination. On careful exploration at an early period in such cases, the margin of the os uteri is found hard, and often slightly fissured.

In the situation of the muciparous glands there are felt several small, hard, and distinctly defined projections, almost like grains of shot or gravel under the mucous membrane. Pressure on these with the point of the finger gives rise to pain or nausea. The circumference of the os uteri feels turgid, and to the eye presents a deep crimson colour; while the projecting points have sometimes a bluish hue. According to Professor Schuta, of Prague, it is possible to make an early diagnosis only by regarding every case of catarrh and erosion with suspicion, and by examining them carefully as to whether we can discover on the surface of the erosion a small nodule projecting, which is dark red or yellowish red, bleeding very easily. These nodules seem at first quite innocent; nevertheless, when excised they present, under the microscope, all the characteristic signs of cancer of the uterus. The future of this disease will be better if we operate early. This, however, depends on our early diagnosis, and for this purpose the cautious employment of the curette so as to bring away a sufficient amount fo the abnormal tissue for microscopic examination should be resorted to in every case of suspected or possible adenomatous or cancerous dengenerations. This diagnosis being thus established, the next question to be considered is the treatment to be adopted under ordinary circumstances, and as a general rule in cases of uterus cancer.

In this connexion the position and surroundings of the uterus should be borne in view, and especially important as Mr. Alban Doran has observed are the recent researches of Mierzaeiosky and Leber on tne dense network of lomphatic plexuses surrounding the cervix, and emptying their contents into two large trunks passing along the broad ligament to the obturator glands, and thus favouring the rapid extension of the cancerous elements into parts almost beyond the possibility of the complete removal of the infected tissues. There is, therefore, I fear little to be ultimutely gained by the more heroic procedure, and our main reliance must rest on the early recognition of the cervical disease, and its prompt treatment by the amputation of the neck of the uterus above the limits of the cancerous infection; or, as may possibly be proved by future experience, from the employment of the electric current before referred to. In a large number of instances cervical epithelioma, if sufficiently early recognised, may, I believe, be completely arrested by the infra-vaginal amputation of the cervix, and the free cauterisation of the stump, without the necessity for resorting either to Schroeder's flags operation, or to the super-vaginal method of accomplishing the amputation of the uterine neck, the mortality from which was four in thirty-seven.

At a meeting of the Obstetrical Society of Berlin, in October, 1886, Hofmeier reported the number and results of total extirpation by the same operator. The report included 118 partial amputations, with ten deaths—mortality 8.5 per cent.; and forty-eight total extirpations, with twelve deaths—mortality 25 per cent.

Four years previously Pawlik published a report of 136 cases of cancer of the cervix which had been treated in the first gynæcological clinics of Vienna by means of the galvano-cautery. The mortality from the operation was apparently not over 3 or 4 per cent. By amputation with the hot iron, Schroeder, out of thirteen cases, had an operation mortality of $7\frac{7}{10}$ per cent., and of the survivors 42 per cent. remained well at the end of eighteen months to two years.

Carl Braun and Simpson cite instances of patients who were operated upon in this manner, and who had continued alive and well for a quarter of a century. A few years ago this subject was discussed in the London Obstetrical Society, where Dr. Godson exhibited specimens from cancerous cervices which he had amputated, and in which there had been no recurrence of the disease after a lapse of six and three and a half years respectively after the operation.

According to Kuge and Veit, cancer of the portio vagenalis has a very slight tendency indeed to spread into the cervix, but almost invariably spreads out laterally into the fornices of the vagina and the ligaments. "What possible advantage, then," asks Dr. Duncan, "can be expected in these cases by removing the uterine body (which is unaffected) over that gained by the supra-vaginal amputation, which gets rid (as far as the uterus is concerned) of the disease? On the other hand, cancer of the mucous membrane of the cervical canal spreads up along the canal and into the uterus, whilst it only at a late period (or even not at all) attacks the os uteri." The removal of the affected cervix may be accomplished by the infra or supra-vaginal methods, and of these, under ordinary circumstances, I much prefer the former. In its performance we may use either knife, scissors, or galvano-cautery, or ordinary chain or wire ècraseur, with satisfactory results, although its use was objected to by the late Dr. Marion Sims, on the grounds that it makes a lacerated surface to heal by granulation, which takes a long time, often leaving the os tincæ contracted. Another objection to it is the uncertainty of just where we place the chain, which often draws in more tissue than we intend, and removes more than we wish. So great has been this trouble, that some of the German surgeons have given up the ècraseur altogether in operations on the neck of the womb, because the attachment of the bladder, and in some instances the posterior *cul-de-sac* of the vagina, have been injured, and even the peritoneal cavity opened by its greedy grasp. I have not myself observed the occurrence of the mishaps thus referred to by Dr. Sims in my use of the steel wire ècraseur. In amputation of the cervix, the patient being in the ordinary lateral semi-prone position, and the parts exposed by the duck-bill speculum, the uterus should be drawn down by forcible traction with a strong vulsellum until the cervix protrudes beyond the vulva, so as to elongate the structures and allow of the wires of the ècraseur being applied well above the diseased portion, and above this, again, the uterine neck should be transfixed by a stout wire ligature, to prevent subsequent retraction and facilitate the full use of the thermo or galvano cautery which I regard as essential. The advantages following the use of the actual cautery after removal of the cervix for cancerous disease are, I believe, unquestionable, but may probably be due, as M. Sèchillot has considered, to the creation thereby of an adventitious fibrous tissue of low vascularity, which is more or less refractory to morbid change, and acts as a barrier to the recurrence of the disease. With regard to the extirpa-

tion of the entire uterus for cancer, the limits of time and space here at my disposal do not permit of any attempt to discuss the respective merits or demerits of either supra-vaginal or abdominal, or those of the vaginal modifications of hysterectomy suggested for this purpose; though if either are to be adopted, the exceptional experience of Dr. Martin, of Berlin, cannot be lost sight of in favour of the latter, by which, in forty-four cases during a period of seven years, the results, excluding the immediate mortality of the operation, were nine relapses within the first year, four relapses at later periods, and thirty-one recovered up to the date of this report.

The earlier literature of the vaginal operation for extirpation of the cancerous uterus was ably reviewed by Dr. Condie, in the American edition of the late Dr. Churchill's work on "Diseases of Women." As this matter bears directly on the practical question now under consideration, and is now generally ignored, I may venture again briefly to recapitulate some of the facts there referred to. One of the first, if not the first, surgeons who performed this operation was Palletta. Subsequently it was performed once by Santer, twice by Siebold, once by Holacher, four times by Blundell, once by Barnes, once by Lizars, three times by Kecamier, thrice also by Langenbeck, once by M. Delpech. Of all the nineteen patients, sixteen died in consequence of the operation, one as late as the fourteenth day, most of them on the following, or third at the latest, some in a few hours, or even a few moments after the operation.

Velpeau says that the operation was performed twenty-one times in twenty years, and of all these not one of the cases was permanently cured (*Méd. Operatoires*, p. 162).

In a valuable communication to the London Obstetrical *Transactions*, "On the Extirpation of the Entire Uterus," in certain cases of cancer, Dr. William Duncan has collected from various authorities the particulars of a large series of cases of these operations, of which 137 were by the abdominal method, with 99 deaths (being a death-rate of 72 per cent.), and 276 were cases of vaginal extirpation, with 79 deaths (being a death-rate of 28.6 per cent.).

"Owing to the frightful mortality attending the abdominal operations for the removal of the cancerous uterus," says Dr. J. Reeves Jackson, of Chicago, in an able paper read before the last International Medical Congress, "not less than 72 per cent., and probably considerably more, it has been generally abandoned, except in a comparatively small number of cases in which the vaginal method is inapplicable.

The mortality of Kolpo-hysterectomy, according to the statistics compiled by Dr. Post, is shown to be 27 per cent. in 341 cases. This is 1 per cent. less than the result of the first 29 operations collected by Hegar and Kaltenbach, and 2.4 per cent. greater than the result in 256 cases published by Munde, in September, 1884. The statement has been made that the mortality of the operation is steadily lessening year by year. While this may be true, these tables hardly show the fact. In the case of a few operators, improvement has unquestionably occurred, but it is by no means general. In those who survive the operation, recurrence takes place on an average in about four months, and death in fourteen months.—(Sanger).

The conclusions with regard to the expediency of the entire extirpation of the cancerous uterus, arrived at by Churchill and Gendrin some forty years ago, are thus only too well borne out by the general results of the better and more scientific methods now employed for the same purpose and may be here cited.

"After," says the former, "a careful examination of the results of the operation, when the uterus is *in situ*, it is really difficult to find adequate reasons in its favour, except the repugnance which everyone must feel to give up entirely the hope of affording relief from the most agonising sufferings to which the female sex is exposed." —(Churchill's "Diseases of Women," p. 278.

"It is evident," observed M. Gendrin, "that the extirpation of the uterus is one of the gravest and most painful operations in surgery, since it is most fatal. It ought not to be undertaken except with great prudence, nor unless it is probable that the disease is perfectly removable. The signs of this limitation of the disease to the uterus, and of its mobility, are to be acquired by the use of every mode of examining the uterus, but unfortunately these means are not always trustworthy. Very able men (MM. Santes and Kons) have overlooked the extension of the disease to the ovaries and Fallopian tubes, which are often attacked when the body of the womb is affected. We must conclude that in many cases it will be wiser to abstain from the operation."

Even in extensive adenoma of the uterus, in which the cavity was filled and enlarged by the malignant villous outgrowth, and the patient exhausted and miserable from the pain, hæmorrhage, and fœtid discharge, I have, without resorting to extirpation, in several instances succeeded not only in relieving those symptoms, but also, as I believe, in materially prolonging the life of the patient, simply by thoroughly scooping out and removing the diseased structures. In two of these cases almost all the uterine parenchyma was thus so extensively scraped down as to leave only a thin sub-peritoneal shell, and after curetting, the raw surfaces were treated with chloride of zinc. It should be added that, although the disease ultimately returned, and that generally within a year, save in one case in which the patient survived for upwards of two years, yet the amount of comfort and relief to mental distress, as well as to intense physical suffering, thus afforded, was beyond question. At the same time there can be little doubt as to the propriety in some urgent and otherwise unrelievable cases of fundal uterine cancer, of resorting to whatever measure may afford any reasonable possibility of protracting life or of relieving suffering, Under such circumstances extirpation may be expedient, even if not capable of effecting in our hands all that has apparently been obtained in Berlin by this operation in the practice of Professor Martin. But at the same time whilst fully recognising his high authority on this subject, I would venture to reiterate my dissent from the sweeping conclusion he has formulated in a paper in the *Transactions* of the last International Medical Congress, in which he says: "I recommend the vaginal extirpation of the uterus as the operation and the means which we ought to apply in cases of cancerous diseases of the uterus, as long as the disease is limited to the uterus itself."

For my own part, bearing in view the enormous mortality too commonly supervening in operations for the extirpation of the cancerous uterus, whether by abdominal or vaginal methods, as well as the frequent recurrence of the disease in those who survive the immediate consequences of such operations, I cannot regard their employment as yet proven to be expedient or justifiable as a general rule of practice in cases of uterine cancer.

MEDICAL OFFICERS OF HEALTH: THEIR TRAINING AND THE CONDITIONS UNDER WHICH THEY SHOULD HOLD OFFICE.[1]

By G. E. J. Greene,

HEALTH OFFICER. FERNS, CO. WEXFORD.

I think it is generally conceded that the medical officer of a dispensary district, who is also medical officer of health (I speak now with special reference to Ireland not having had a very extended experience of the working of the Health Acts in the sister country), performs his sanitary work in a very slip-shod fashion. This negligence may arise from a variety of causes, such as incompetence, indolence, over work, or it may be financially to his credit to be, so to speak, "sanitarily amaurotic." This latter is to my mind the most potent factor in the maintenance of fever centres in many of our rural and urban districts. Take for example the case of a patient in affluent circumstances, but who is wholly regardless of sanitary laws, believing, in fact, such new fangled notions about disinfection, etc., to be mere passing crazes. He is the proprietor of a nuisance to which his next door neighbour happens to take exception, and calls in the health officer with the view of having him report it so that the necessary legal steps may be taken for its removal. Now considering the sanitary man is a large source of yearly income—chiefly by reason of his insanitaryness, and to proceed in the usual way, or even mention the matter, would give mortal offence, and ensure another medical man being called in next time. What is it probable the health officer will do under the circumstances? I will state what usually occurs. He generally says he is in a great hurry, and very busy remind him of it next time he is passing, or else inspects and does not report, and on being subsequently questioned on the matter pleads having forgotton it owing to multiplicity of work. A not unnatural course to adopt, remembering the sanitary man is seldom ill, is usually in poor circumstances, and has not the extended circle of his more wealthy neighbour. The foregoing is fairly typical where the sanitary officer's attention is not called to a nuisance by a printed notice from the sub-sanitary officer in which latter instance he is legally bound to visit and report. Medical officers of health should possess a diploma in sanitary science, obtained by passing a Government examination (mainly practical) in analytical chemistry, physiological and histological botany, animal pathology, geology, and sanitary engineering, to which might be added climatology, and perhaps bacteriology, should hold jurisdiction over a large area, be appointed by and draw their pay from Government, which pay should be sufficient to support them without their engaging in any other occupation. They should be designated medical officers of health, and have the option of promotion to better districts with higher pay after a certain number of years' service. It is needless to say they should be medical men first, but should enter into an engagement not to practice. It is well nigh impossible for a man, engaged in practice, and not having undergone any special sanitary training, to look after his district, suggest suitable remedies for the innumerable nuisances, etc., which exist from time to time, and keep himself abreast of the ever advancing tide of sanitation. The subjects enumerated as essential in a medical inspector of health's curriculum are, I believe, of obvious utility, and do not need to have their advantages set forth. I could enlarge the scope of this paper indefinitely, but I have crudily touched on a few of the salient points merely, the details of which can be further elaborated in subsequent discussion. In conclusion I would venture to suggest that the Parliamentary Bills Committee of the Association should have a bill introduced next session to Parliament, embodying some of the more practical points here advanced, provided they meet with the approval of the section.

[1] Read in the Public Health section of the British Medical Association meeting at Leeds, August, 1889.

CO-EXISTENCE OF DIPHTHERIA AND TYPHOID FEVER.

By Benjamin Walker, F.S.A.,

KIRKBY-STEPHEN.

M. A. C——, a healthy, well-developed housemaid, æt. eighteen, dislocated her shoulder on December 20th, and after reduction, she went into the country to take rest for a few days, living in a cottage provided with defective sanitary arrangements. I was next called on December 24th, and found her in bed complaining of languor, loss of appetite, and pain in the head, throat, and chest; I found the tonsils enlarged, and four pinkish-grey circular raised patches on the right tonsils, and one on the left; the lungs were in the "Stoke's stage" of acute pneumonia, characterised by harshness and roughness of the breath sounds; engorgement had not set in.

The tongue was coated down the middle only, and red at the edges. There was no pain in the abdomen, and the bowels were regular. Urine diminished, and of sp. gr. 10.20, faintly acid, rather dark, with a distinct trace of albumen; temperature 100°. During the next two days the patches on the tonsils extended backwards and forwards, involving the uvula and the buccal mucous membrane, becoming more dense, and of a duller grey colour; temperature 99°. The breathing was short and painful; the lungs were engorged and crepitant râles were general.

The urine became more scanty, with $\frac{1}{8}$ albumen, and of a deeper colour. Until the 8th day the case continued to give the usual signs and symptoms of diphtheria of a dangerous type. On the 9th day the girl felt quite prostrate; the headache increased, and she complained of pain in the abdomen and loins; this was accompanied by tenderness in those parts on gentle pressure; there was laxness of the bowels, with frequent vomiting, and the patient was in a very bad state.

I examined the skin daily, and on the fourteenth day found several typhoid spots on the abdomen, a few on the chest, and also on the forearms. The condition became more alarming; the breathing was much impeded by the diphtheritic lining of the throat, but on the twenty-third day the abdominal tenderness lessened, the stomach was less irritable, and the day following the patient coughed up a cast of about half the pharynx and that part of buccal mucous membrane on which the grey lining was deposited at the outset; it left a slightly red, raw, bleeding surface. During the next two days, the patch on the other side of her throat was coughed up, and from this time she began to improve slowly, but was unable to feed herself for a fortnight. She was kept in bed a fortnight more, and has since made a good recovery, except that the kidneys have remained weak, and albumen is present in the urine.

The interest in this case is the co-existence of the diseases and the severity of the diphtheria which attacked the girl first. Benzoate of soda, muriate of iron and tonics, were the chief drugs used, with glycerine of tannin for local application.

ON THE OXYIODIDES OF CALCIUM AND BISMUTH.

By Hugh Woods, M.D.

The oxyiodides of calcium and bismuth, the compounds to which I desire to call your attention, differ from the iodides, or salts of hydriodic acid, by the association of oxygen with the iodine; while, on the other hand, they differ from the iodates or salts of iodic acid, by their containing a much smaller proportion of oxygen.

But the point of difference which appears to me of the greatest practical importance is this, that the oxyiodides, as I shall call them, are more readily decomposed, so as to liberate the whole of their iodine, than is the case with the iodides and iodates in general. The constitution of the oxyiodides is not, however, the same in all cases, and therefore they need to be individually considered.

The greater readiness which the oxyiodides display of yielding up all their combined iodine gives to them a more powerful physiological action than the more stable iodine compounds possess. For I think it may be laid down as a rule, "That, where a substance possessed of powerful physiological action is combined with a comparatively inert substance, their physiological action is greater or less according as such combination is more or less stable." There are, no doubt, many exceptions to this rule; but in a large proportion of cases it would, I think, hold good. Of course such a rule must be very cautiously applied; but in the case of compounds of such a substance as iodine, I think it is applicable with but little reserve.

The physiological action of hypochlorate of calcium, or bleaching lime, is much more powerful than that of calcium chloride, and similarly, the action of hypiodite (or oxyiodide as I prefer to call it) of calcium surpasses that of the simple iodide. Hence I believe that iodine is much more efficiently and economically administered in the form of oxyiodide of calcium than as iodide of potassium or the like. In their antiseptic action, the oxyiodides compare favourably with such iodine compounds as iodoform, iodol, etc.; the readiness with which the oxyiodides give up iodine, when required, together with their unirritating and inodorous qualities, render them, in my opinion, decidedly preferable.

The characters and reactions of liquor calcis iodinatæ show that calcium oxyiodide is exactly analogous to that compound of chlorine, which, in an impure form, is known as bleaching lime. The formula, therefore, is $Ca\,OI_2$—that is to say, an atom of calcium is united with one atom of iodine by one link, and by the other link with a group consisting of one atom of iodine attached to one of oxygen, and analogous to hydroxyl. The formula of calcium oxyiodide, therefore, is :—

$$Ca\begin{matrix}-I\\-OI\end{matrix}$$

the monad iodine, together with the monad group OI being separately attached to the dyad calcium atom.

Liq. calcis iodinatæ is a solution of this compound, and it is only in solution that I have been able to prepare it pure. Any acid added to liquor calcis iodinatæ causes its decomposition with deposition of the whole of the iodine in the solid form; just as acids set free chlorine from bleaching lime. Water acidulated by $\frac{1}{600}$ of its bulk of hydrochloric acid sets free iodine from liquor calcis iodinatæ, and hence it is evident that the action of the gastric juice upon it produces calcium chloride and free iodine. Boiling converts liquor calcis iodinatæ into a mixed solution of iodide and iodate of calcium, and the addition of an acid then only causes a slight reddening instead of a black precipitate as before. The insoluble iodate also soon deposits in crystals on the glass.

I find liquor calcis iodinatæ useful as a test solution for urine, etc.; in the first place as detecting even a minute amount of *free* acid, while litmus paper does not distinguish between the acidity of acid salts and that due to free acid; secondly, it serves as a good clinical test for phosphates, which it precipitates at once, and especially if heat be applied. The milkiness which sometimes appears when liquor calcis iodinatæ is diluted with ordinary drinking water, is due to the presence of phosphates.

As a medicine, liquor calcis iodinatæ is useful in the cases in which iodine or the iodides are administered. It acts beneficially in chronic rheumatism, gout, syphilis, strumous disease, goître, and very many other affections. I have already alluded to the decided advantages it has over the iodides of potassium, etc., and its superiority, for internal administration, over the preparations of pure iodine, such as the tincture, is obvious.

Liquor calcis iodinatæ has a most unpleasant taste when diluted, but, if desired, it can be prescribed with various tinctures and other drugs, but not with the incompatibles of the iodides, or with any acid. The antiseptic action of liquor calcis iodinatæ makes it useful as an application to wounds and sores, and also as a paint to the throat in tonsillitis, diphtheria, etc. It is well adapted for injections into strumous glands or the enlarged thyroid, and also acts beneficially when applied outwardly in such cases. I have been told that it relieves neuralgia when applied over the painful nerve, but I have not yet tested its anodyne properties, if it has any.

Liquor calcis iodinatæ possesses the powerful antiseptic and deodorising qualities of free iodine, without the irritating and staining qualities of the latter. Liquor calcis iodinatæ contains sixteen grains of iodine in each ounce, and its dose is, therefore, about five to twenty drops. I do not find that it readily irritates the stomach, but it is probably best given after food, unless its direct action on the stomach mucous membrane is desired.

This preparation is much cheaper for use than the iodide of potassium, the price being 3*s.* 6*d.* per pound, as compared with 14*s.* for the iodide of potash. Of course the proportion of iodine present is very greatly less, but it is in a more active form, and hence the dose of iodine given is necessarily but small comparatively. I have had many favourable reports of it, and, as yet, only one unfavourable. I shall be very glad to hear any reports of it from those who make trial of it, and I recommend it as well worth an extended trial.

The chemical composition of red oxyiodide of bismuth is approximately represented by the formula Bi O I., that is to say, one atom of triad bismuth is connected by two links with an atom of dyad oxygen, and by its third link with an atom of monad iodine, thus :—

$$Bi\begin{matrix}=O\\-I.\end{matrix}$$

The constitution of this oxyiodide is therefore not of the same nature as that of calcium oxyiodide, although it is somewhat similar. The constitution of the yellow oxyiodide of bismuth (as I call it) is very complex, and I am not able to give a formula of any practical value. It contains only twelve grains of iodine in each ounce, which is a vastly smaller proportion than we have in the case of the red

oxyiodide. It is formed by treating subnitrate of bismuth with a solution of calx iodinata, and is made of a constant composition. The presence of twelve grains of iodine in each ounce suffices to make the powder decidedly antiseptic, and hence makes it much more valuable than the subnitrate in many cases. By mixing together the red and yellow oxyiodides in suitable proportions, we can obtain a powder of any intermediate strength as regards iodine.

Both of these oxyiodides are decomposed by acids, setting free all their iodine; and they readily enough give up their iodine to other bodies. They are, however, quite stable enough for preservation for all practical purposes. They are not altered by boiling.

These oxyiodides of bismuth are very fine insoluble powders, of a copper-red and a yellow colour respectively. They are absolutely free from either taste or smell of any kind. The uses of the oxyiodides of bismuth as external applications are very similar in many respects to those of iodoform, but one or other of them can be used in a great many cases to which iodoform is inapplicable, and their antiseptic action is much more decided. Their freedom from smell gives the oxyiodides of bismuth one important advantage over iodoform, and the yellow preparation can be used with perfect freedom without any risk of poisonous effects. The red oxyiodide is intended only for external use. It can be applied in the form of powder, or as an ointment, which is prepared at my suggestion, of a strength 1 in 10. A similar ointment of the yellow oxyiodide is also prepared.

The oxyiodides of bismuth form most excellent applications to wounds, sores, and ulcers of all kinds. Where a powerful antiseptic action is required, the red one is preferable; and, on the other hand, the yellow one can be more freely applied to extensive wounds than the red oxyiodide, which, if carelessly used over a large raw surface, might produce iodism. I have not, however, observed this result as yet.

The oxyiodides of bismuth are very efficacious in eczema, intertrigo, sweating feet, chapped hands, and the like. They are valuable in many skin affections, and the red oxyiodide acts well in parasitic skin diseases. The yellow powder is also suited for internal administration, and may be given with benefit in some affections of the stomach, such as cancer, gastric ulcer, and chronic morbid conditions of the mucous membrane. Where an antiseptic action is required, it is preferable to the subnitrate. It can be given in doses of from five to twenty grains, in the same way as the subnitrate is given.

In the three preparations to which I have called your attention, we have a complete series of compounds for the administration and external application of iodine. Except for purposes of counter-irritation, these preparations are well suited for producing the various effects which we can obtain by the help of iodine. The above have not the irritating and staining properties of the free iodine preparations; while, at the same time, they allow the iodine present to exert in full its useful influence.

I may say in conclusion, that the red oxyiodide of bismuth has already been recommended by others than myself; but I have arranged for it to be manufactured at a considerably cheaper rate than before. I believe that I am the first to introduce the other two preparations.

The above preparations are being manufactured, at my suggestion, by Messrs. Willows, Francis and Butler, 101, High Holborn, London. Specimens of them, and descriptive leaflets, will be found in the Museum.

THE HYGIENE OF MIDWIFERY.

By John Dysart McCaw, F.R.C.S.

"Clean hands" is the motto of modern obstetricians. The older midwifery writers preached the doctrine of chastity: "Thine is a high and holy calling; see that thou exercise it with purity." The professors of obstetrics in this age urge with equal earnestness the cleansing of the outer man with subtile chemical solutions. This idea of the practical application of Listerian principles to the practice of midwifery did not originate in England. The first impetus to the study and practice of obstetric antisepticism in this country followed the publication in the year 1884 of two admirable reports on "Obstetrics," by Dr. W. C. Neville and Dr. Arthur V. Macan, in the *Dublin Journal of the Medical Sciences*.

Hoch first published his conclusions as to the relative value of the different disinfectants in 1881. From his experiments it became known that weak solutions of corrosive sublimate formed the most powerful of all known measures of disinfection. This led to its use for *obstetric* purposes. The results of the first trials came from the Breslau clinic, and the methods of using it there were conveyed to the readers of the *Provincial Medical Journal* by me in October, 1884, in a short paper on "The Practice of Obstetric Antisepticism at Home and Abroad," in which it was clearly proved that the adoption of antisepticism in midwifery had caused an *amazing* decrease, both in puerperal mortality and in puerperal morbidity. At the International Medical Congress in 1884, Dr. Ingersley, Copenhagen, gave an interesting summary of his researches into puerperal mortality, in the towns of the Danish provinces, and in Copenhagen for seventeen years, and made a calculation of the deaths from puerperal fever in the towns, in the country districts, and in the maternities; this was checked with the greatest possible care, and showed an evident decrease in the puerperal mortality which *undoubtedly* was due to a more strictly antiseptic conduct of labours, even outside the maternities. Since Drs. Neville and Macan (I believe these gentlemen deserve the credit) spread the principles of this continental practice amongst the medical profession of this country, *the toilet* of the parturient woman and her attendants has received more than ordinary attention.

Very little if any advance has been made in recent years in antiseptic midwifery; the time-honoured napkin has long since been discarded for the more comfortable "sanitary towel," "or the gauze-bag of sublimate wood-wool," and tiny pellets are now carried in the pocket to make our antiseptic solutions of any required strength at the bedside. Ablution is not now regarded with horror by the patient and her friends, but nothing really novel has *lately* been suggested. Strict cleanliness is the great secret of success in midwifery work. Both patient and attendants must be scrupulously clean. This is of first importance whether antiseptics are used or not. Outside lying-in hospitals —in private practice—with this principle before one's mind, and making it a rigid rule, and with good hygienic surroundings, the *constant* observance of a hard-and-fast antiseptic routine in midwifery practice is not to my mind absolutely essential to successful results. I am, however, strongly of opinion that in all public maternities and lying-in hospitals the most strict antiseptic precautions ought to be always observed. In private practice, where the practitioner or nurse may have been recently brought into contact with scarlet fever, diphtheria, erysipelas, or indeed any zymotic disease, preventive measures must be also adopted

before, during, and after confinement. Dr. Cullingworth deserves the thanks, both of his professional brethren and the public, for his forcible and practical addresses on this important subject to the students of St. Thomas's Hospital last October, and to medical practitioners at the last meeting of the British Medical Association. We cannot insist and impress too much on our patients, and nurses trained and untrained, the absolute and vital importance and necessity of antiseptic cleanliness in midwifery practice.

In my own practice, extending over some two and twenty years, I have had a very happy and perhaps somewhat singular immunity from death among my midwifery patients. It has been my good fortune to have attended about 2,500 labours without a maternal death. This pleasing record I attribute mainly, if not solely, to a thorough observance of as perfect cleanliness as possible, and a firm resolution to keep in mind all likely sources of contamination to my patients, and the best means of avoiding and preventing it.

Special Articles.

THE CONTROL AND CURE OF INEBRIATES.

By Alfred J. H. Crespi, of Wimborne.

The Inebriates Acts, from which so much was naturally expected, expire at the close of the present year, and unless allowed to drop will have to be renewed. It is understood that those Acts have not been so elastic and useful in practice as was hoped, and that attempts will be made to introduce fresh clauses, which will increase their value. Some of the proposed alterations do not, in my opinion, enhance their value, and in the following article I have endeavoured to point out a radical change imperatively demanded if real good is to come from the Acts.

Estimates have been frequently attempted as to the number of habitual drunkards of both sexes in the United Kingdom: all place the total very high. I shall not venture to frame a fresh estimate, nor to formulate any definition of what constitutes habitual intemperance: and for my present purpose it is enough that a very large number of persons frequently drink to excess, and by so doing injure themselves in health, morals, and pocket, while they are a constant source of anxiety, sorrow, and loss to their relatives. Whether the temperance movement is advancing or not, whether drunkards are more or less numerous is immaterial to the object of this paper, which concerns itself solely with the restraint of inebriates, so that their friends may cease to be plagued by them. I am aware that we have three agencies at work to control drunkards—the police, who take charge of a large number and after detaining them a few days, release them; retreats under the Inebriates Acts, which receive a few, a very few victims of this vice, and keep them from mischief, and so far good, but before admission can be obtained, the drunkard must voluntarily give up his liberty, and the magistrate must make him clearly understand the full import of his action, and, in the last place—a certain number of wealthy drunkards are, with infinite pains and usually at enormous expense, confined in the private houses of friends or in those of medical men; and relays of attendants, whose duty it is to watch over them, succeed one another night and day. The first system is good and necessary and, as far as it goes, effectual, but it is only temporary: the second is expensive and only reaches a very small number; one objection to it is that the drunkard must give up his freedom of action and movement, and *that* he will not often do: the third plan is only suited to the very rich: doctors only care for inmates who can pay well, and when it comes to two or three attendants to each resident patient the expenses range from £400 to £800 a year, besides this the patient's clothes, books, and miscellaneous requirements have to be provided, and a grand total of say from £500 to £1000 a year is reached. Busy doctors, greatly preoccupied with professional engagements, will not undertake cases at moderate remuneration, alleging that otherwise they do not pay, so that, to get proper treatment and attention, the charges are high, indeed enormously in excess of the means of all save a few rich families, while even then the restraint is not of a kind to be of real value.

My strictures may seem strong; I do not mean them as strictures, but can any one deny that most of the people engaged in the management of retreats for the intemperate think rather of their own profit than of carrying on a great reformatory wish? When I just thought of writing this article, I wrote to many managers and proprietors of such houses, and in no case did I receive any information; most of the persons addressed did not reply. One or two sent prospectuses; while one or two favoured me with brief and not particularly courteous answers. On writing to one more polite a second note of inquiry, he with charming courtesy, recognising my hand-writing, did not open my letter, but forthwith returned it. Candidly I would not send any inebriate to an establishment of which I did not know something favourable.

I once saw an officer, whose parents had put him in the house of a country surgeon in Gloucestershire, at the patient's own desire, indeed in a house of his own choice: the terms were high, but there was no effectual restraint. The next day the young man gave his keepers the slip, and was not found for some time: when I was sent for professionally I found him lying on the floor of a room in a large hotel: he was screaming and kicking frantically and was quite drunk. I succeeded in restoring him to his friends. In another case, in which I was consulted—that of a profligable officer in South Devon, money was squandered—no other word is applicable—in providing experienced attendants who were under no real discipline. At last I got the services of a retired Corporal Major of the Royal Horse Guards—but no permanent good was done, for the inebriate used to drive to one of the many small towns near and order his servant to purchase bottles of spirits. In short the master had the command of money and servants and was practically a free agent, and under the circumstances attempts to control him were like trying to empty a pond with a sieve.

Perhaps it ought to be made clear before going farther, that by inebriety should be understood habitual excess in any narcotic, or narcotico irritant, like chloral, opium, and bromide of potassium. By the way, though perhaps irrelevant to the present subject, Dr. J. C. Reid, an elderly medical practitioner, now I believe deceased, once mentioned in a paper read before the British Medical Association, that at one time inebriates could be sent into a lunatic asylum for three months. This power seems now to be taken away. This able practitioner in the same paper remarks that, though when he wrote it he was sixty-three, he had only known four victims of intemperance, who were ready of their own free will to go into an inebriate asylum; in other words, a busy and experienced practitioner might not oftener than

once in ten years meet with one inebriate who was ready to sign away his liberty even for his own good.

What we want is establishments to receive and detain inebriates, on the representation of their friends and in return for moderate charges. While in the home the patient should be absolutely unable to get out or to obtain stimulants, and his forcible detention should not be a matter over which he had any control: no declaration on his part should be necessary: promptly, cheaply and certainly, the magistrates should, in all suitable cases, have power to commit the inebriate to a proper place for not less than one month, nor more than six, not so much for his own protection as for that of his friends. Some time ago a physician of good standing in the Metropolis read a paper, in which he thought that he proposed a satisfactory solution of the difficulty by suggesting that written notices, according to a given form, should be served upon the neighbouring publicans warning them, at their peril, not to supply stimulants to the inebriate named in the notice. This paper was favourably received and commented upon while a rejoinder of mine fell dead: in my reply I endeavoured to show that in a small village it might be useful to serve such a notice on the two or three local publicans, but what about a great town where the inebriate would not be known to one publican in twenty, and where beer shops and grocers supplying stimulants are numbered by hundreds?

What, for instance, about Wimborne, where I am writing, which stands in the midst of a dozen other towns, not half an hour off by train, and one of them—Bournemouth—with a hundred drink shops, while another—Poole—is little less prodigally supplied? What use would it be to serve notices on local publicans when the inebriate could make his way to Wareham, Blandford, Ringwood and Christchurch in half an hour? Nor would such notices prevent the inebriate from getting a supply for home consumption.

The way must be cleared before approaching the discussion of my plan. In the first place, an immense amount of sheer nonsense and pseudo religion—cant in short—is talked on the temperance platform: the drunkard is held up to public sympathy as a poor deluded creature, longing for reformation: and society is often represented as banded against him, tempting him to drink, overcoming his scruples and ridiculing at his efforts to keep straight. The fact is that thousands of drunkards are notoriously persons of low moral type, with no good resolutions, no pure purpose: they like drink and they will have it: shame they no longer feel, and it is absolute rubbish to sympathise with them and regard them as suffering angels. Whatever his original position in society, or his education, the drunkard of both sexes is a miserable object—his own deadliest enemy—as long as we treat inebriety as a failing we shall do no good. Nor is much gained by looking upon confirmed intemperance as a disease—it may modify our view of the sufferer's guilt, but can hardly change the treatment adopted or reconcile his friends to his follies. "You know my failings" said, the other day, a miserable, degraded lady who for twenty years had been a misery to her family. Her failing forsooth! her low, degrading vice, indulged in, in the face of every good influence and of the most excellent surroundings. "Don't let her know that you think she drinks, it would vex her," once said a young lady to me, when I was called in to see her mother, a confirmed drunkard, who had got through a bottle of brandy that very morning before breakfast. "Don't scold me; I can't bear it; I am very naughty I know"—I have again and again heard of drunkards saying.

The drunkard can or he cannot control his appetites. If he can and wont, he is vicious, and should be severely punished. No doubt the effort would be severe, but in most cases the control, given a sufficiently potent motive, can be exercised, and I fancy that if the drunkard knew that every act of self-indulgence would be followed, in due course, by a sound flogging, outbreaks would be rare. If the drunkard cannot restrain himself, then he is a lunatic and a danger to society, and he should be treated accordingly. I have seen hundreds of drunkards and closely followed the career of many for years, and the low tastes, the indifference to the feelings of others, the untruthfulness, and the craving for present self-indulgence at whatever future cost have dried up my sympathies. Too often the drunkard does not care who pays the penalty of his vices.

"You ought to bring good moral influences to bear," people retort. "Talk to them; reason with them; cheer them up; help them to keep their good resolutions." All nonsense. Most drunkards should be locked up, and made to see that they are a menace to society, and must be protected from themselves for the sake of their friends. We must understand the heinousness of drunkenness, its penalties in this world and the next, its loathsome character, and its dangers, and then we shall be able to adopt effectual measures for the punishment of its victims, but not so long as we cant can we do anything.

Then the lawyers interpose: "The liberty of the subject must be respected; it would never do to lock up a man unless with his own consent. Then what is to be done with his property? Trustees must be appointed, a court of inquiry must sit." In short, if they are listened to, such complicated, costly and tedious machinery would need to be set in motion, that the Acts would be totally valueless in the case of the countless thousands of inebriates, whose circumstances do not admit of vast sums of money being squandered. Is the law generally so merciful? Is the liberty of the subject so religiously guarded? Suppose a man enlists: he soon learns that trifling misconduct means three months' imprisonment, and that absence without leave is not soon overlooked or expiated. Why a summons can be taken out against the highest persons in the realm, and they must obey it at any cost. It is only the drunkard whose liberty we treat with such scrupulous delicacy. As soon as he is mentioned we feel deep commiseration for him, but not for his friends—he may drink, waste his and their substance, and occasion them great suffering, and we give them no redress, no protection.

"What! punish a man for drinking!!! Punishment should not be thought of unless it is reformatory: you should reclaim not punish." And are the friends to be left out of the reckoning? are they to suffer, as I have known them do, a world of misery extending over many years, with no improvement, no hope of reformation. Are parents to be called upon to pay thousands of pounds, to meet bills wantonly run up in defiance of strict injunctions to the contrary by drunken sons?

What we really have is something of this sort—a large body of working men and women, who are drunkards, and who deliberately set themselves to drink when they can get stimulants; they are too poor to be taken into the present inebriate asylums under the Acts, nor would they consent to enter, and the managers of those institutions do not want them. We have also a large number of men and a fair sprinkling of women of the middle classes, who are

ruining themselves by intemperance. As a broad rule these people are irreclaimable, and it is useless to get them to sign the pledge, and to attend temperance gatherings. Now and then they conduct themselves fairly well for a time, then there is a relapse. The history of these cases is simply one of rapidly accelerating degradation until the end comes. For all I know to the contrary the number of these people may be as low as 10,000 or it may reach 100,000; probably nearer the latter. Every medical practitioner knows this miserable, degraded type, and has seen scores, perhaps hundreds. I certainly have. "Why" said a drunken officer to me the other evening "should not the poor man have as much beer as will do him good? Why did they call the horse that won the Derby, Donovan? Why should public houses be closed on Sundays?" The Major hereupon looked at me very sapiently, and propped himself up against a house to avoid falling. Every night after dinner he is in that condition—his pay, his private means, and all the money he can squeeze from an elder brother goes in this fashion, and nothing can be done to restrain him. Then another young man I know sells, when in the humour, everything he can lay his hands upon—clothes, books, boots, college prizes; and he will borrow from anyone, who will trust him a couple of shillings. His father pays for a handsome coat, which finds its way to a secondhand dealers and fetches three shillings; a waistcoat brings in eightpence, and a pair of trousers a couple of shillings, while a large and costly book only commands a shilling. But he would not go into an inebriate asylum, and of course the liberty of the subject must be respected, so that he cannot be forcibly detained unless by the police, who occasionally find him drunk, and then give him a night in the lock-up; and his friends have to pay, in the shape of fines and costs, for the accommodation thus provided.

The *British Medical Journal*, some months ago, had the following remarkable paragraph, which bears on the subject of this article. I have freely abridged it:—"The records of our police-courts, with their enormous mass of frequent offenders or 'repeaters' charged with drunkenness or offences connected therewith, are striking. The remarkable figures published by Dr. J. Francis Sutherland, relating to Glasgow, are a lay sermon of ominous significance. We learn that there are 10,000 commitments of women in that city every year. Each of these women is, on the average, convicted three times, and the mean period of imprisonment is seven days. About forty per cent. of these Scottish gaol-birds have had from 11 to 800 previous convictions recorded against them. What does this mean? Simply that, so far from cure or reformation, or even deterrence, these short sentences enable the prisoner to recover from the exhaustion of the last 'drinking bout' and send him forth recruited, invigorated, and fit to recommence his vicious indulgence. Such treatment of a pathological condition confirms rather than cures the inebriate habit. The establishment of homes, at the public charge, for the scientific care of these police-court *habitues*, would be more economical and effectual."

As I have said above, and as I want to insist upon, we must have a simple, quick, and easy method of dealing with these deplorable cases; and what could be better than the following? Let any person who stands in the relation of parent or child, brother or sister, or guardian or trustee to an inebriate—whether the latter is of full age or not—have the power to apply at the nearest police office for a form, in which name, address, occupation, and so on of applicant and of the inebriate, should, in due course be set forth. A summons should then be issued in accordance with these particulars, and be served on the inebriate. When the case came on for hearing, the magistrate should have absolute power to ask for and to obtain information as to the defendant's history, habits, and circumstances. Of course the application should be supported by proper witnesses and reliable evidence. The magistrates would soon eliminate the cases in which malice or fraud was the instigating motive; moreover the defendant would have the right to make his defence, and if possible, to clear himself. But, unless I am totally in error, I believe that in nineteen cases in twenty the inebriate would express contrition, seem very much frightened, and promise to amend; very rarely indeed would he plead that he was the victim of a conspiracy. Then, according to the circumstances of the case, the defendant should be ordered to be detained from one to six months to begin with; when indigent, the expenses should be defrayed out of the rates; when better off, he could have greater privileges, and be charged a moderate, a very moderate sum. As for places of detention, what could be easier than to provide special departments in gaols or lunatic asylums? At first such special departments might only be added to a few prisons or asylums; after a time, if necessary, to more, and finally, special institutions could be built and confined to this class.

What I want to make clear is that I am not proposing to treat these persons as criminals or lunatics, but as inebriates detained primarily for the protection and relief of their friends; while in the institution they should have books, papers, and letters, and see their friends, but they should be unable to leave till their sentence had expired. I am certain that were such institutions opened they would soon be crowded, and thousands of families would be relieved from a load of misery.

The mere fact that the applicants would in the main be relations would prevent outsiders from interfering, but it would also protect the defendants. A father could, for example, set forth that his son had for six years been an inebriate, incurred heavy debts, neglected his occupation, and caused great anxiety. In many cases I can speak positively that the evidence of guilt would be overwhelming and unanswerable. Occasional acts of intemperance would be totally different, and would not be held to justify incarceration. No doubt it might happen that occasionally the charge would not rest on sufficient evidence; sometimes, too, malice might instigate it, but the magistrates would soon eliminate these cases.

As for property, little difficulty could generally arise. As the inebriate would not be a criminal, he would be at liberty to see letters, documents, and lawyers, and while under restraint could transact any necessary business, while his friends would not have the unrestricted control of his property, though they might use some of his things. If the wish to appropriate his property was the motive of the action, the defendant would be the very person of all others most likely to know, and the services of a clever lawyer would be retained, and the latter would not neglect to make the most of the information given him by his client. But the property difficulty would not often occur, for in the vast majority of cases the very ground of the application would be the extravagant and bad habits of the inebriate, and detention would be demanded for the protection of his friends. At most it could only be a question of the use of horses, books, and house for a very short time, and even that would in great measure be got

over by the inebriate being able to give directions as to their management. If he refused to be reasonable, and, as might occasionally happen, would not make proper arrangements, his friends might apply, at his expense, for the temporary management to be entrusted to a relative, lawyer, or friend, though as soon as the magistrates were satisfied as to his habits his detention might commence. This question of the management of property is just that one, however, on which the lawyers will do their best to wreck the scheme; no one who is sent to prison for a few weeks for some trifling lapse from the right path is allowed to ask for acquittal on the ground that he has a horse or a house; and yet I greatly fear that the custody of a little property, in one case in twenty, will be held to be a serious matter, and will ruin the proposed reform unless the detention of inebriates is treated on sound, common-sense principles. When the amount of property is considerable, and the inebriate has been confined several times, provision might be made in the Acts for the appointment of trustees, with almost absolute control, but their appointment would seldom be necessary.

One class of cases I have not dealt with, and a very large one, too—that of confirmed low-class inebriates, whose friends did not trouble to move, or perhaps there might not be any friend to take the initiative. Here I think the local police authorities should have power to take the initiative, and instead of sending a person to prison 200 times, as has frequently happened before now, they could apply, in due form, to the magistrates for an order to commit the inebriate to an institution for six months, the expense if necessary to be defrayed out of the rates.

A friend of mine has, in a short time, sent a woman to gaol thirty-six times for being drunk and disorderly. Now I contend that the law urgently needs alteration, and that it is disgraceful to see the same wretched inebriate in the dock time after time. Something more effectual should be attempted.

No doubt a great deal will be made of the disgrace to the family, and we shall be told that forcible detention in an inebriate institution would be insufferable. Now, I ask, does anyone suppose that a man's habits are a secret to his friends, servants, employers, and neighbours? Many rich families delude themselves with the belief that the habits of a scapegrace son or abandoned daughter are a profound secret, while the decorous servants, who are alone supposed to be behind the scenes, have long ago told all the other servants in the neighbourhood the whole tale, and in this way half the inhabitants of a small town are in the secret, and follow its development curiously.

The need for such institutions as those I am advocating is urgent. The present Inebriates Acts could go on; private medical practitioners, with contingents of highly-paid attendants could be resorted to in proper cases; and the police might still look after the occasional riotous drunkard; but we require something more to reach the overwhelming masses of inebriates, who cannot afford to pay a medical man for very imperfect supervision vast sums—I do not say exorbitant sums, for the treatment of such cases in private houses is harassing and expensive, and must be liberally paid for to make it worth while embarking upon it.

Were some of our temperance associations to give their attention to the matter, and promote the passing of an Act that would meet the requirements of the case, they would do a great and useful work, and perhaps, in the long run, promote temperance more effectually than by a crusade carried on chiefly among people who have already signed the pledge and have no temptation to break it. Temperance meetings will not do inebriates any good, nor will they reach the latter. Much must be left to the discretion of the magistrates, for any attempt to frame an act so comprehensive that it would cover the whole ground, and deal with all the possible difficulties and complications of such cases, would infallibly lead to its being so cumbrous and complicated that, though it would find plenty of work for the lawyers, it would not protect the public. Moreover, as the magistrates would have full power to dismiss the application on the ground of insufficient evidence, unsuitability, or malice, the liberty of the subject would be effectually protected. Lastly, in cases of possible fraud or malice, the penalties attaching to perjury would necessarily be incurred by the applicants, and conspiracy need not often be feared.

Such an extension of the Acts as I have roughly sketched out would give the necessary elasticity and completeness, and would make them a boon to the nation, instead of as at present, a delusion.

HEALTH RESORTS OF THE WORLD.

XXXVIII.—LYNMOUTH AND LYNTON.

(NORTH DEVON.)

By H.N.S.

Lynmouth! What a charm has that name to the lover of the picturesque who has ever visited its glorious bay. Have you ever admired the view of Matlock from the Heights of Abraham, wandered through lovely Dovedale, tramped across the Yorkshire Moors, penetrated the solitudes of the Lake district, feasted the eyes upon the gardens of Alton Towers, strolled in the glens of the Isle of Man, climbed Malvern's "lonely height," or walked through the woods of Bournemouth? If so, imagine all these beautiful spots concentrated within walking radius of each other, and placed where the glorious billows of the Atlantic for ever add grandeur to the scene, and you may form some idea of the scenery of this English Switzerland.

Far from the reach of the cheap tripper, the piano organ, the niggers, and the thousand and one annoyances of an ordinary watering place, twenty miles from everywhere, and inaccessible from the land side except by coach or carriage, this peaceful spot lies nestled at the foot of the cliffs, with its neat white houses, clean, well-kept roads, and comfortable hotels; and its civil inhabitants are ever ready to welcome and provide for the comfort of the tourist who, wearied with the bustle of every day life in some smoky city, finds his way to this haven of rest. The writer of this article first visited Lynmouth during a stay at Ilfracombe. The inhabitants of that fashionable and excellent resort are apt to tell their visitors that "you can see Lynton and Lynmouth in a day, and return by the same coach in the evening." To one who knows anything of the district the above advice is about as good as telling a provincial bumpkin that he could see London during a day trip and return home satisfied that there was nothing left worth staying for. There are several ways to reach Lynmouth, viz: by Great Western or South Western railways to Barnstaple, and thence by coach; by the same lines to Ilfracombe, and coach beyond; by Great Western railway to Dulverton, with a coach ride of twenty-five miles; or by boat from Bristol or Weston-super-Mare. This latter route has its disadvantages, as, there being no

pier, passengers are landed by means of open boats which is most inconvenient, besides which the captains of the steamers plead various excuses for neglecting to call at times, and so carry the unsuspecting traveller as far as Ilfracombe against his will. There has been some talk of promoting a company to build a pier, which would be of immense advantage to the place, and would doubtless prove a profitable speculation.

Two lovely valleys lead out from behind Lynmouth, and down each of these comes a branch of the Lynn, the two streams uniting just near the Lyndale Hotel, and forming a foaming torrent, the brown waters of which tumble headlong over the boulders close beside the village street, and so reach the sea in the centre of the bay. The sides of the valleys above referred to are one mass of trees, beneath which are ferns of every variety in luxurious abundance; whilst on the immediate sea shore the Foreland stands out barren and rugged, but nevertheless looking charming in the sunlight of an autumn day. The main street of Lynmouth is most picturesque, especially near the beach, where the sea at high tide flows to within a few feet of that comfortable little hostlery "The Rising Sun" and its adjacent cottages; and it is no small compliment to this portion of the village to have been selected as the frontispiece to that splendid work "Picturesque Europe." A small jetty runs out from the main road, and at its end is a quaint tower with abundant loop-holes and machiolations. This was erected by General Rawdon, and is a copy of one on the Rhine.

Within a short distance of Lynmouth, and lying under the Foreland, is a splendid stretch of beach known as the "Sillery Sands," approachable by a path leading down from the Countisbury road. By some unaccountable neglect this path as it nears the shore has been allowed to fall into decay, and the sands are this season inaccessible for that reason. It is to be hoped that this may be remedied before another year, or an awkward accident may happen to a too venturesome visitor.[1] Four hundred and twenty feet above Lynmouth is the village of Lynton, situated in a sort of dip between two enormous hills. This village can be reached by a zigzag and almost perpendicular path, available for foot passengers only, or by the more circuitous coach road which seems scarcely less steep. To obviate the difficulty of transit between the two villages, the enterprising proprietor of a well known periodical (which is anxious for a weekly sale of half a million) has lately erected a lift, which, when completed, will doubtless be a great convenience for invalids, children, and luggage; but beyond making an ugly scar on the face of the cliff, which will take years of judicious planting to heal properly, very little has yet been accomplished.

Lynton is much larger than Lynmouth, and contains some splendid hotels, besides numerous comfortable boarding houses. The views from here, embracing the Bristol Channel, the valleys of the Lynn, Countisbury and the Foreland, the Tors, the Valley of Rocks, the village of Lynmouth, etc., are unsurpassed in any portion of the United Kingdom; whilst far in the hazy distance the white cliffs of South Wales can be discerned. Lynton boasts a good sized church (of which there is a chapel of ease at Lynmouth), also an excellent Independent chapel. There is a very good Wesleyan chapel close by at Barbrook, and an Undenominational chapel close by the Lyndale bridge. At the gate of Lynton Churchyard is the following quaint notice: "This is God's acre, sacred to Him and to the departed, whose bodies rest here. You are free to enter, but remember where you are. This is no place for common loud talking. Do not touch the flowers or shrubs. Allow no dogs to enter. Make fast the gate when you come in and pass out." The death rate of the parish is exceedingly small, having in some instances been as low as ten to eleven per thousand; and numerous evidences of the healthiness of the climate may be seen in the faces of neatly dressed inhabitants of great age, which may be met with at every turn; indeed, three-fourths of the deaths registered are infants under one year or people over sixty.

A mile and a half from Lynmouth is the far-famed Watersmeet, where the waters of the East Lynn and the Combe combine. The walk to this spot is most enchanting, leading the whole distance through the woods beside the brawling stream, whilst above on either side tower enormous hills. Here in various nooks are artists without number busy transferring to their canvas the views with which the walk abounds, indeed, so numerous are these generally near one spot that it has attained the name of "Umbrella Corner." At times the path is on a level with the stream, at others leads far above it, where only the roar of the cascades indicates its presence; but it invariably conducts one back to the water's edge before we have travelled far. From the Watersmeet the tourist can by a short climb reach the coach road, and return by that route; or on the opposite side of the river can find a path which will lead him over the common to Countisbury, and down the Minehead coach road on the face of the cliffs. If a good walker he may continue still farther through these charming woods, gathering wild strawberries, raspberries, and wortleberries, without number, or making bouquets of honeysuckle and wild flowers, until the village of Brendon is reached, where a rustic bridge crosses the stream at Rock Ford, and a pleasant walk through real Devonshire lanes will bring you back to your destination. Vegetation is everywhere most luxuriant, and wild fruit, flowers, and ferns in every variety attain great size and perfection. What better employment for a summer day can be found than to climb by easy stages Summer House Hill or the Foreland, where the breeze from the sea tempers the heat of the sun, and to lie in luxurious idleness and gaze upon the endless views which land and water present? Then, again, there is the Valley of Rocks behind Lynton. This can be reached by a cliff path, known as the North Walk, situate about midway between the sea and the summit of the hills, and as you walk along it seems as if the towering crags above you must topple over and carry you bodily down the precipitous descent to the sea below. After rounding one or two small headlands you come in sight of the Castle Rock, an immense pile rising from the shore in perpendicular manner, and crowned at the top with masses of stone not unlike the battlements of a castle. Turning to the left just before reaching this pile, the visitor finds himself in the Valley of Rocks. The whole of one side of this wonderful valley is formed of detached masses of rock piled in endless confusion as if to form a sort of backing to prevent the cliffs on the shore from falling inland, whilst the opposite hill (with the exception of one group of rocks called the "Devil's Cheese Wring"), is entirely devoid of stone, and rises in a majestic sweep, covered entirely with bracken and gorse. To see this place to advantage it should be visited in the evening after sunset. Then, after suddenly leaving the cliff walk

[1] Since the above was penned, public attention has been called to this fact in correspondence which has appeared in the *Standard* upon a subject relating to Lynmouth.

with its scores of gulls screaming below and around you, the awful stillness of the desolate valley has a wonderful effect. Speaking of this Valley, "John Ridd" the hero of Blackmore's charming work "Lorna Doone" says: "But all the middle of this valley was a place to rest in, and think that troubles were not, if we would not make them. To know the sea outside the hills, but never to behold it; only by the sound of waves to pity sailors labouring. Then to watch the sheltered sun, coming warmly round the turn, like a guest expected, full of gentle glow and gladness, casting shadow far away as a thing to hug itself, and awakening life from dew and hope from every spreading bud. And then to fall asleep, and dream that the fern was all asparagus."

The return to civilisation may be effected by walking back through the valley and by a lane leading to Lynton, round the foot of Hollarday Hill. If, however, it is broad daylight and you are inclined to see more, follow the road through the valley in the opposite direction and you will pass Wringcliffe Cove (a pleasant nook under the Castle Rock), and further on Ley Abbey with its picturesque walks and grounds. Further along on the shore are Ley Bay and Wooda Bay, delightful spots for picnics, or striking inland we can climb through the woods to Martinhoe Common and passing across the same, dip down on the other side by a most precipitous hill to Heddonsmouth—a romantic gorge separating two headlands, between which a brawling stream finds its way to the sea—by which time rest and refreshment at the quaint and comfortable "Hunters' Inn" will be welcomed. Afterwards we may stroll along by a footpath close by the stream until we reach the village of Parracombe, and catch one of the evening coaches back to our hotel, or return on foot by the cliffs.

Then there is the Doone Valley made famous by "Lorna Doone," above mentioned (which by the way, every visitor to Devonshire should read), but as this lies some distance away, and as walking on Exmoor is heavy work, not to mention the chance of losing one's self, it is better to take one of the various carriages which can be obtained on reasonable terms, and if you only know enough of the Devonshire dialect to keep up or understand a conversation, the driver will be glad to regale you with many a tale and anecdote relating to the various spots through which the carriage passes, and will point out Plover Barrows Farm, where lived "girt Jan Ridd;" Oare Church, the last resting-place of the same celebrity; Badgeworthy Woods (pronounced Badgery), and many other interesting localities. Near to the Doone Valley is the curious Water Slide, which in the work referred to is described as follows: "For lo! I stood at the foot of a long pale slide of water, coming smoothly to me without any break or hindrance for a hundred yards or more, and fenced on either side with cliff, sheer and straight and shining. The water neither ran nor fell, nor leaped with any spouting, but made one even slope of it as if it had been combed or planed, and looking like a plank of deal laid down a deep black staircase."

Another charming drive is to Glenthorne, the seat of the Lord of the Manor, through whose beautiful grounds you are at liberty to roam at will, or to Culbone with its tiny church (dimensions, thirty feet by twelve), situated in a glen so deep that for three months in the year the sun is never seen. Rare ferns are to be found here. Further on are Porlock Weir and Porlock town both well worth a visit. Personally the writer prefers to roam on foot through the glens and combes with which the coast abounds, and no restrictions are ever placed upon visitors who can pass wherever they like without the slightest interference, and there is always a respectful answer to enquiry made at any out-of-the-way dwelling that may be stumbled across, together with the offer of a drink of cider or milk if the day be hot. It often happens that one may walk for hours without seeing any human being, the only living things being the hardy Exmoor sheep, of which there is always a plentiful supply. It is wonderful to see these agile animals, scared by the sudden approach of man whose footstep is silent in the carpet-like turf, bound from rock to rock on the sides of cliffs which look not to have sufficient foothold for a mouse. Still, very few sheep are lost by falling over, especially in the summer season when the foothold is not so treacherous as when storms and landslips have undermined the tracks. Wherever you go or whichever way you turn views of surpassing loveliness meet the eye, and the magnitude of the hills and solitude of the glens have a wonderful effect upon one accustomed to a busy town life, whilst the bracing air either of the cliffs or moors will make you do full justice to the dainty dishes prepared for your discussion, the quality of which will not be despised by the most fastidious. There is excellent sea fishing in Lynmouth bay, where, after a day's pleasure you can lie and smoke a fragrant weed and catch your morning's breakfast; trout fishing in the Lynn, and also stag hunting within easy distance, for those who have a good seat and a better nerve.

I had almost omitted to mention the grounds of Glenlyn, which is one of the very few places in the neighbourhood where a small charge is made for admission, but taking into consideration the fact, that the money so collected is at Xmas distributed to the poor, the visitor will not begrudge a small fee for the privilege of being allowed to enter, as amongst the various enchanting spots on all sides this certainly bears the palm. The West Lynn which flows through these grounds falls 400 feet within a quarter of a mile, in a succession of continuous beautiful cataracts, over the immense rocks that crowd its romantic gorge.

As will be seen from the foregoing, Lynmouth is *par excellence* the place for a holiday. With a climate as mild and a position as sheltered as Ventnor—a good drainage system and a plentiful and pure supply of water—it is suitable for invalids, the climate being mild without being relaxing, whilst for those of stronger mould who can climb the bracing hills the place offers a never failing source of health and amusement. Dear old Lynmouth with its civil and hospitable inhabitants, it is always with a feeling of regret that we leave it to return to the sterner realities of daily routine. No one can say he is acquainted with the beauties of his native country in their best guise until he has visited this glorious spot. I may perhaps be excused for borrowing a stanza from a short poem found in a local guide as a fitting finish to this little article in which I feel I have only partially succeeded in describing a few of the features of this locality. To all who would find a place for a typical holiday resort I would say:

Come away to the mountains! 'tis good thus to roam,
Leave cankering care with your ledgers at home;
Then rest by the Lynns, with loveliness rife,
And gather fresh strength for the battle of life.

XXXIX.—FOLKESTONE.

By Charles Egerton Fitzgerald, F.R.C.S.

In considering the claims of any place to rank as a health resort, one has to bear in mind its situation, soil, equability of climate, duration of sunshine, and quantity of rainfall. Folkestone is unusually favoured as to its *situation*, having a sunny south-east and south aspect, and, lying as it does on a slight projection of the coast, is open to the fresh breezes blowing either up or down the Channel. Being built almost entirely on the cliff it escapes many disagreeables to which sea-places on a lower are subject; such as the encroachment of the sea at high tides or during gales on the basements of houses and roads lying at low level, the smell of sea-weed thrown up on the beach by a rough sea, and also the noise of the surf on a stormy night, which often becomes intolerable to a wakeful restless invalid who happens to be in a house near to the sea level. In addition to these *negative* advantages, Folkestone has the *positive* one of being comparatively above the sea fogs which seem to be such an increasing evil on all our coasts.

Besides its admirable coast situation, Folkestone is most healthily placed on its landward side, having a range of high chalk downs lying some two miles back from the town, and screening it to a great extent from the cold north winds, while their distance is sufficiently great to admit of a thorough free circulation of air between them and the sea. For all invalids suffering from nervous complaints or recovering from long illnesses, and for many pulmonary affections where a pure and bracing, but not too keen, air is recommended: I know of no place which so effectually combines all these requirements as our own town of Folkestone. It stands to reason that when, from any cause, the capacity of the lungs is diminished; the inspired air should make up in quality and in pureness what it lacks in quantity; hence the advantage of high mountain places such as Davos Platz, or pure sea air resorts, such as Folkestone, in the treatment of pulmonary complaints. The day has long passed when warm and enervating places were considered the only suitable winter resorts for invalids; it is obvious that a low-lying, cliff-surrounded place cannot have the same invigorating effect upon a weakened system as a place like this, which is open to the fresh breezes circulating between the open sea and our downs.

The soil of Folkestone is greensand, with the chalk range at the back, and this formation is one great cause of the healthiness of the place. Greensand being a very porous stratum, absorbs the rain-fall immediately, so that we have an entire absence of fog, damp, and mist, which are inevitable with a heavier soil which allows water to lodge. So porous indeed is the soil, that within a short time after heavy rain the roads are dry and clean, and pleasant for walking. The porosity of the soil is also a great safeguard in case of accidental leakage from drain pipes.

The climate of Folkestone is remarkably equable, being neither so hot in summer nor so cold in winter as many other of our watering places. To a certain extent *all* sea-side towns enjoy a more even temperature than those inland, owing to the temperature of the sea being more even than that of the earth; the sea being relatively cooler in summer and warmer in winter than the air. Folkestone being exposed on its south and south-east sides to the sea, enjoys in consequence a more even temperature all the year round than other less favoured places.

The Isotherm, or "lines of equal temperature," for the winter months are drawn from Plymouth, through Taunton, Winchester, and Canterbury to Folkestone, the mean daily temperature averaging from 45 deg. to 53 deg. The Isotherms in the interior of England are drawn from Blackburn, through Oxford, to London—from Liverpool to Hull—and from London to Flamboro' Head, and range from 40 deg. to 50 deg., showing a very considerable difference, both as to the relative mean temperature and as to its variations. In the summer months of June to September, the south coast Isotherms range only from 59 deg. to 63 deg., while those for the Midlands range from 58 to 64 deg. This bears out what I have previously stated, that on the sea coast we are relatively cooler in summer and warmer in winter than at inland places. I will give the temperature for the six winter months of a room without fire, the thermometer being by an open window and in a fairly exposed situation, the time of reading being daily at 2 p.m. I consider this a better test of the climate an invalid would experience in a winter sojourn here than that of the temperature of the open air which, however, may be taken as an average at three or four degrees below the figures I quote. Thermometer in room:—

1888.	Max.	Min.	Average.
October	67 deg.	55 deg.	62 deg.
November	63 deg.	50 deg.	58 deg.
December	60 deg.	47 deg.	54 deg.
1889.			
January	55 deg.	47 deg.	51.5 deg.
February	56 deg.	47 deg.	54 deg.
March	57 deg.	46 deg.	52.5 deg.

I think that few places could show an equally even temperature for the six winter months of our proverbially inconstant climate, there being between the maximum and minimum but

Twelve degrees in October,
Thirteen degrees in November and December,
Eight degrees in January,
Nine degrees in February, and
Eleven degrees in March.

During the six winter months, the sun shone on 105 days out of the total 182 days, being a percentage of 57 sunny days.

There is at Folkestone a sufficient rainfall, but seldom to any excess, the amount being decidedly below the average of other places. It is a very rare thing, even in the winter time, to have a wholly wet day, or one which compels the irksome necessity to an invalid of a whole day indoors. Rain fell in the six winter months on 53 days out of the total of 182 days. I will give the number of days on which rain fell, both in London and Folkestone, the latter place showing up well in comparison:—

		Folkestone	London
Rain fell in	October, 1888,	on 5 days;	in London 6 days.
,, ,,	November ,,	,, 9 ,,	,, 18 ,,
,, ,,	December ,,	,, 9 ,,	,, 10 ,,
,, ,,	January, 1889	,, 11 ,,	,, 12 ,,
,, ,,	February ,,	,, 11 ,,	,, 19 ,,
,, ,,	March ,,	,, 8 ,,	,, 14 ,,
		Total, in Folkestone, 53	In London 79

Shewing a percentage of rainy days as against London:

In October,	in Folkestone, of	16.1 per cent.;	in London of 19.3 per cent.
In November	,,	30.0 ,,	,, 67.8 ,,
In December	,,	29.0 ,,	,, 45.1 ,,
In January	,,	36.2 ,,	,, 39.3 ,,
In February	,,	39.2 ,,	,, 67.8 ,,
In March	,,	26.0 ,,	,, 45.1 ,,

The total percentage of rainy days in the said six months being 29.1 per cent. in Folkestone, and 43.4 in London, and an average of 8.8 rainy days per month in Folkestone, and 14.1 per month in London. I will also give the number of days on which rain fell in the same six months at various places in England:—

		Percentage in the six months.	Average in one month.
Rain fell at Folkestone on	53 days	29.1 per cent.	8.8
,, London	79 ,,	43.4 ,,	13.1
,, Barnstaple	79 ,,	43.4 ,,	13.1
,, Bath	83 ,,	45.6 ,,	13.8
,, Carlisle	89 ,,	48.9 ,,	14.8
,, Bradford	89 ,,	48.9 ,,	14.8
,, Eastbourne	98 ,,	53.8 ,,	16.5
,, Plymouth	102 ,,	56.0 ,,	17.0
,, Torquay	104 ,,	57.1 ,,	17.3
,, Isle of Wight	104 ,,	57.1 ,,	17.3
,, Llandudno	108 ,,	59.3 ,,	18.0
,, Liverpool	111 ,,	60.9 ,,	18.5
,, Truro	115 ,,	63.1 ,,	19.1
,, Salisbury	121 ,,	66.4 ,,	20.1

I have purposely refrained from entering on the question of the drainage of Folkestone, because I was sure it would be ably dealt with by my old friend, Mr. Bateman. Suffice it to say that, according to our present lights, it is all it should be, and is carried out on the most modern system, to which our advantages of soil and position admirably lend themselves. Air disconnection and perfect ventilation of house drains and pipes is very general. Some years ago I designed a system of street drain ventilation, through the columns of the street lamps, and proposed its adoption here, but although favourably commented on by the *Times* and by several practical engineers, our local authorities declined to entertain the idea.

The Folkestone water is excellent, and is supplied from waterworks some two or three miles out of the town, and situated on the side of the Downs, so that all risk of contamination of the water at its source is impossible. There is now a constant supply to the houses, and larger works at the same place are in course of construction to supply the needs of our rapidly increasing town. The water itself is unusually pure, the greensand whence it partly springs serving to temper the hardness of the pure chalk water.

No better proof of the excellent sanitary condition of Folkestone can be adduced than a record of dry statistics as to its death-rate, compared with that of some other towns, which are all more or less health resorts. The returns in the last Blue Book issued for 1887 are as follows:

Writing in 1871, Mr. Stainer showed Folkestone to have been for ten years at the head of the list of all watering places, with a death-rate of 16.1. There are now several other places with a lower death-rate than ours, but I will for the sake of comparison only quote those whose death-rate is higher than our own. It must not be supposed, however, that our death-rate has increased, but only that those of some other towns have diminished.

DEATH-RATE FOR 1887.

Folkestone	17.77 per 1,000.
Dover	17.94 ,,
Margate	18.27 ,,
Herne Bay	18.34 ,,
Brighton	18.57 ,,
Aberystwith	18.59 ,,
Lowestoft	18.60 ,,
Cheltenham	18.64 ,,
Hastings	18.81 ,,
Llandudno and Conway	18.83 ,,
Worthing	19.35 ,,
Ilfracombe	19.53 per 1,000.
Scarborough	19.56 ,,
Barmouth	19.90 ,,
Harrogate	20.93 ,,
Yarmouth	22.17 ,,
Cromer	23.36 ,,
Penzance	24.51 ,,

I will also give the death-rate per 1,000, from the quarterly returns for the twelve months ending June 30th, 1888. Death-rate from June 30th, 1888, to June 30th, 1889.

Folkestone	16.57 per 1,000.
Scarborough	16.58 ,,
Herne Bay	16.61 ,,
Hastings	16.69 ,,
Ramsgate	16.77 ,,
Weymouth	16.78 ,,
Eastbourne	16.95 ,,
Barmouth	17.05 ,,
Penzance	17.15 ,,
Harrogate	17.18 ,,
Whitby	17.25 ,,
Bath	17.54 ,,
Cheltenham	17.67 ,,
Leamington	18.33 ,,
Lowestoft	18.45 ,,
Cromer	19.35 ,,
Yarmouth	20.53 ,,
Buxton	24.83 ,,

PERCENTAGE OF DEATHS IN 1887.

Places with a less death-rate than Folkestone:

Ryde	14.03
Torquay	14.33
Tunbridge Wells	14.42
Buxton	15.16
Isle of Wight	15.87
Tenby	16.04
Leamington	16.38
Eastbourne	16.46
Bath	16.43
Weymouth	16.84
Ramsgate	17.45
Whitby	17.48

Folkestone..... 17.77, etc., etc.

PERCENTAGE OF DEATHS FROM JULY 1ST, 1888, TO JUNE 30TH, 1889.

Places with a less death-rate than Folkestone:

Ryde	13.60
Tenby	14.40
Ilfracombe	14.58
Dover	14.80
Isle of Wight	14.91
Torquay	14.96
Worthing	15.16
Margate	15.80
Conway and Llandudno	16.02
Tunbridge Wells	16.08
Aberystwith	16.27
Brighton	16.49

Folkestone..... 16.57, etc., etc.

It is also a fact worthy of notice that in the "Returns" for the said twelve months, ending June 30th, 1889, that there was *not one* death in Folkestone from either small-pox or measles—only three from fever, and one from scarlet fever, and for which, not improbably, we were indebted to some fever patient who came down here for convalescence, and unwittingly brought the infection either in his own person or in his belongings. In cases of infectious disease appearing among us, we have frequently been able to trace it to some non-resident who has directly or indirectly communicated it to others. That indeed is a danger to which all health resorts are peculiarly liable, although, fortunately, that danger has been con-

siderably minimised by the ever-increasing knowledge and use of disinfectants.

To turn now to the construction of the dwelling-houses, which is an important point of sanitation, and one which materially affects the comfort and well-being of our visitors, certainly in this respect Folkestone can compare favourably with many older towns. Its houses are well-planned, well-built, and well-ventilated; and, unlike most watering places, where the eye grows wearied with the dull monotony of endless terraces, the Folkestone houses are mostly detached or semi-detached, each having a brightly planted garden of its own. This forms a pleasant outlook for those who, from ill-health, have to remain much in-doors. The absence of long terraces has an actual sanitary advantage, as it allows of a free access of air and sunshine all round the houses. The trees planted along most of our roads and avenues not only add greatly to their picturesqueness, but are valuable sanitary agents in oxygenating and purifying the air.

The noted Folkestone Lees are a unique and charming feature of the place, and owing to the even level of the ground are a great boon to those who can walk but little; while the bright green of the grass, contrasting with the deep blue of both sea and sky, are continual refreshment and pleasure to those who come, wearied in mind and body, to be restored to health and strength by our life-giving sea breezes. There is hardly a day in the winter season when a sunny walk may not be taken on the Lees and cliffs; and to many invalids who dread the fatigue of a long journey to warmer climes, the sheltered paths in the cliff, open to the full blaze of the noon-day sun, and screened from the cold inland winds, offer all the advantages of the Riviera, without fear of its treacherous mistral.

I have dwelt specially on the fact of Folkestone being built almost entirely on cliffs, as the greater proportion of the houses where our visitors stay are on the cliff; still for those who prefer a more sheltered situation, the houses on the lower parade, under the cliff, are admirably adapted and are equally well built, and as commodious as those on the cliff above. Since the erection of the hydraulic lift, all difficulty of transit between the upper and lower parades has been abolished, a few seconds sufficing for the journey between the new Promenade Pier and the Lees.

The sea at Folkestone is remarkable clear, owing to the shore being pebbly rather than sandy, and the sea bathing is excellent; new and well arranged bathing houses, with a sliding action on rails, having to some extent superseded the older bathing machines; they are also fitted with a platform for diving. There is besides a good "Bathing Establishment" fitted with hot and cold sea and fresh water baths, a large swiming bath, and all kinds of medical baths, under the supervision of trained attendants.

The country around Folkestone is varied and picturesque, and there are many charming walks and drives for those who can take them; while for those whose health precludes them from taking more exercise than the mild luxury of a bathchair, the long asphalted walk on the Lees offers a delightfully smooth and level path, far superior to the gravelled parades and flagged pavements of other sea-side towns.

For the younger and more athletic of our visitors, there are plenty of healthful amusements, such as riding, cricket, and tennis, nearly every house having the use of some tennis ground; and for those who are "golfers," we have capital links with a course of three miles within half a mile of the town. The boating is also good, and there are facilities for excursions to the Continent, owing to the service of steamers which cross daily between here and Boulogne.

The Warren, too, is a source of endless joy to the Naturalist and Geologist, from the variety and beauty of its flora and fauna, and the richness of its strata. I may mention here that we have an excellent "Natural History Society," numbering over a hundred members—also a good Museum and Free Library. I have not touched on the subject of entertainments, as they are not, as a rule, considered a necessity to the health seeker; still, for the benefit of those who are able to enjoy the pleasures of life, I may add that we are no way behind other towns in our concerts and our theatricals—our regattas and our polo matches—our military bands and military tournaments.

Some may think I have dwelt unduly on the numerous amusements and attractions of Folkestone, but there can be no doubt that rational amusement conduces largely to health, both of mind and body, and is a real physiological stimulant and restorative, often far more potent than medicine. The recent researches of Bouchard on the animal alkaloids, the ptomaines, and leucomaines, generated in the human body, and which produce so depressing an effect on the health and spirits, tend to show that these poisonous alkaloids may be profoundly modified in their formation by just that condition of exhilaration of the nerve centres, which results from healthful amusement. Pleasure may thus exercise a physiological and chemical as well as physical effect.

If this theory be true, it points to the conclusions that, although in every health resort, sanitary surroundings should be the first consideration, yet no place, however great its advantages, can afford to neglect the rational entertainment of its visitors, for cheerfulness is scarcely less a physiological necessity than a pure sanitation.

THE FUNCTION OF THE SEMI-CIRCULAR CANALS.

By G. Cadogan-Masterman, M.D.

A lecture of unusual interest was recently delivered in Dundee, by Professor Crum Brown, on "Our Sensation of Motion," and especially on the means we possess for the estimation of gestation, passive translation, without any muscular effort of our own. And he showed, as an introductory paradox, that we have, apart from the evidence of visual impressions, no means of estimating it whatever. For example, we know from the teaching of astronomy that we are moving through space at the rate of 68,000 miles an hour, but, were it not for that knowledge, we could not possibly be aware of it, and practically it is utterly inappreciable. And on a smaller scale, and at an enormously less speed, steady motion without change of orientation, is as little felt by us. When travelling by railway on a straight, well-laid section, except for the slight bumping due to the imperfect rail joints, if we keep our eyes shut by day, and during a dark night, we have no sensation of our onward progress; if the carriage could be kept *in situ* and slightly oscillated, we might imagine that we were still travelling with undiminished speed.

This is true, however, only so long as the motion is continued in a sensibly right line and with uniform speed. The moment a change is made in either respect, we become conscious of a something, some change of state, which we

at once recognise, and yet, unless we have reasoned it out, find hard to define. We find it when starting, when beginning to ascend or descend a steep gradient, when passing round a sharp curve, and especially when speed is suddenly slackened. A person who experiences for the first time the action of the continuous brake, is aware of it with very disagreeable distinctness, and the sensation is curiously like that which the unaccustomed sailor feels when a ship is plunging far down the awesome slope of an Atlantic wave.

And this does not apply only to change of place approximately horizontal, but in vertical direction also; when ascending and descending in a well-managed lift, we feel for a fraction of a second only that we are being moved, and, again, that the transition is being arrested; in mid passage we might be standing on the unmoved floor as far as our sensations can inform us. And in the car of a balloon it is the earth which seems to rush from beneath us, the summer clouds are as motionless as we fancy we are ourselves.

The sensation of passing round a sharp curve is that of partial rotation; when that rotation is complete and repeated, the sickening feeling of vertigo is quickly induced, some people, especially when the arteries are losing their elasticity, cannot even turn their head quickly without experiencing it. But Professor Mach, of Jena, to whom we are indebted for the original and most painstaking investigation of this subject, shows that rotation can be performed with impunity, and unfelt—except at the moment of its commencement or cessation—if all visual impressions be effectually excluded. This can be done either by careful blindfolding or by placing the subject of experiment in a little hut on the revolving table, with paper windows on which no shadow or changing light is allowed to fall. At the instant of starting, the sensation of motion is evident, but before the table has made a complete revolution it has disappeared; and so long as the table is whirling at a uniform rate, it is completely absent, returning, however, whenever the speed is changed or when the rotation ceases. And this is equally true whether one be sitting in a chair or lying down.

Now, what is the mechanical effect upon the trunk when motion is imparted to the whole of the partially supported body? We know that if we be sitting upright "with our face to the horses," when a train starts the head is thrown backwards, and in the same way it is projected forwards when the train is stopped, in obedience, of course, to Newton's first law of motion; and if the head be resting against the back of the carriage in the first case, we still have the *sensation*, although the real movement is practically *nil*—and that sensation, when reduced to a single term, is the appreciation of a change in perpendicularity.

It might be objected that the feeling is referable to the point of support—the feet or the buttocks; but it is felt as clearly whilst one is in the water, where the body has no weight, and is on all sides equally supported; and that this is not so is best demonstrated on the revolving table. Let the experimentor sit with his head reclining so that one ear is uppermost when the table is set spinning; at the first movement the motion is felt, and then disappears. Let him now raise his head suddenly, and there is instantly a vivid feeling that he is falling out of the chair in the opposite direction to the movement of the head, and a violent instinctive effort will be made to prevent it, which may result in a falling out of it in reality; in fact whenever the experiment is made for the first time, the subject should be strapped in the chair to prevent accident. And it is still better shown in lying down on the table. Let the experimentor lie on his side, with the head comfortably raised on a pillow: he is revolving with the table, but feels as if he were reclining on a motionless couch. Then let him suddenly turn on his back, and he experiences the most horrible sensation of his bed having become vertical, and that he is falling in space! He clutches madly at anything within reach, and with difficulty realizes that he is still resting in perfect safety, and that he and not the couch has changed position.

This sense of personal perpendicularity, that is of the position which the head occupies in relation to the feet, is only vividly present to us when it is being disturbed, and is intuitive; a man may be sitting in a stooping position unconsciously, but it is hardly possible to change that position without the alteration being clearly estimated in time and angularity. It is evident, therefore, that we are furnished with some organ which accurately measures both, and Professor Mach believes that it is to be found in the semicircular canals.

The view of physiologists has hitherto been that this singular apparatus is part of the organ of hearing—which its position naturally suggests—and that its special function is the appreciation of the direction of sound. But if this were true no part of our organism could be said to do its work so badly; there is nothing of which we have such imperfect knowledge as the position of a source of sound if we have to trust to our hearing only to supply it; it is only by a process of observation or unconscious reasoning that we can assure ourselves of the locality. The tricks of the ventriloquist are the clumsiest, but the most successful which impose upon our senses.

Yet the semicircular canals are clearly intended for measuring something in three planes, or as a trigonometrical instrument for estimating some change in space, and the latter we have every reason to believe is their true function. There are three tunnels, excavated in bone of considerable density, almost circular in section, somewhat more than half a circle in extent, and placed approximately at right angles to each other. For the greater part of their length their diameter is uniform, but one extremity of each is dilated to form its ampulla, and they communicate by five openings (the two vertical tubes having one in common), with the vestibule at each end. They are occupied but not filled by membranous tubes of the same form but less diameter, and each of the three bulbs is firmly attached to the edge of the opening it adjoins, whilst the rest of the tube floats free in the pellucid perilymph which surrounds it, a similar fluid—the endolymph—keeping the tubes distended. The tubes have, then, limited motion in one direction—away from the mouth of the ampulla—and its effect is to elongate them; and any force causing this, acts in an opposite direction on the corresponding tubes on the opposed sides of the head. The nerves are distributed to the ampullæ, and end in hair-like filaments, with minute particles of carbonate of lime between them. We may imagine, then, that force travelling in the same plane as either tube, and away from the bulb, would tend to elongate the ampulla, and to convey a certain impression to the nerve-cells within it; but only when the bony wall was not impressed by the same force, for, if both moved together, no change in form or position could take place.

We have, therefore, the conditions for estimating impulse, but not continuous motion; change, but not permanence in position. And this accounts for the fact that we feel the motion of the most perfect carriage when it is starting or stopping, but not when it is travelling steadily in the same direction. Any change of speed, any deflection, disturbs, however, the equilibrium for a moment of the tube floating in one of the canals, and then we not only feel the change, but are aware of the direction in which it has been made.

Prof. Mach believes, also, that the function of the otoliths in the ventricle and saccule is the estimation of horizontality; these little groups of lime crystals lie in a bed of jelly on the *macula acoustica*, which is pierced by hair nerve-cells, and placed, when we are upright, in the same plane as the earth's surface; deviation of the head from the vertical would tend to make the otoliths press unequally against the nerve-cells, and a sensation of that change would be sent to the brain.

Prof. Crum Brown shewed experimentally that such an arrangement would act in accordance with the theory. In an open frame two heavy horizontal wheels were pivotted; they could move slightly only in one direction, a stop preventing their rotation in the other, and a spiral spring keeping them in contact with the stop. The frame carrying the wheels could be revolved at will, and it was seen on doing so that one spiral spring was elongated at starting, and that on the other wheel in stopping, but that when the frame was rotating smoothly neither spring was affected. This was made evident to the audience by the elongating spring widely opening a tap in a pipe leading to a gas jet, and nearly closing it as it recoiled and remained inactive. For a few spectators I should suggest placing two spirit-levels on the opposite sides of a heavy horizontal wooden wheel which could be rotated or stopped by a hand, and the movements of the air bubbles would show the same phenomena very clearly and simply.

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

Details on Chloralamid, the new Hypnotic—Phenacetin and Caffein combined for Migraine—Treatment of Diphtheria with Acid Corrosive Sublimate Solution—Danger of Chloroform Anæsthesia at Gaslight — The Harmlessness of Creolin.

In my last letter I had occasion to draw attention to the latest of the new hypnotics called chloralamid. Since then several publications have appeared on the subject which are all full of praise for the new remedy. It will therefore be of interest to deal somewhat more fully on the properties and effects of the substance, and I cannot do better than give your readers a brief account of the investigations of Drs. Lettow and Kny. Dr. Lettow has written a thesis entitled, "Chloralamid as a Hypnotic," approved of by the medical faculty of the University of Greifswald. He treated altogether sixteen cases with the new sleep producer, administered fifty-seven single doses, which represent a total amount of over five ounces of the drug. In three cases out of the sixteen he gave it to quite normal persons; in the other thirteen cases the object was to relieve the existing insomnia.

With regard to the causes of insomnia the thirteen cases range thus:—

Neurotic and senile insomnia	3
Alterations of the circulatory system	1
Sarcomatous cachexia	1
Neurasthenia	1
Phthisis combined with diabetes	1
Chronic rheumatic arthritis	1
Cancer of the stomach	1
Delirium tremens	2
Sciatica	1
Bronchial asthma	1

Usually forty-five grains were given at one time. In two cases (delirium tremens) the dose was forty grains; in six cases (circulatory disturbance, senile insomnia, phthisis, delirium tremens) it amounted to thirty grains, and in one case (delirium tremens) only fifteen grains. Fifteen grains were without any visible effect; forty grains acted very satisfactorily in both cases; thirteen grains sometimes produced a good sleep; in other cases the dose was evidently too small.

The total result of Lettow's experiments is to the following effect:—

(1) Chloralamid is a very efficacious and useful hypnotic, though it is no panacea for all cases of insomnia.

(2) The greatest advantage over other hypnotics consists in its having no influence whatever on pulse, respiration, and temperature.

(3) After-effects are very scarce, if occurring at all, they consist of slight headache or a trace of giddiness.

(4) The safe dose for an adult is forty-five grains.

(5) The drug is best given one to one-a-half hours before the desired sleep is intended to commence.

(6) Chloralamid when given as an enema is very reliable.

(7) The hypnotic effect is occasionally prolonged over part of the following day.

Dr. Eugen Kny, assistant physician to the clinic for mental diseases of the University of Strassburg, published in the "*Therapeutische Monatshefte*," August, 1889, the results of his extensive physiological and clinical experiments with chloralamid. He first gave the drug to a great number of animals, and observed a marked hypnotic effect in nearly all cases. After the artificially produced sleep was over, the animals felt all the better for it, and showed no unpleasant symptoms whatever. In one series of experiments the effect of the drug on the blood pressure was studied, the latter being recorded before, during, and after the administration of the drug. The result of these experiments was that chloralamid in contradistinction to chloralhydrate, with which it is in close relation, chemically as well as physiologically, does not materially alter the arterial blood-pressure; whilst chloralhydrate frequently caused a decrease of the blood-pressure to the amount of fifty to eighty m.m., chloralamid caused only seventeen m.m. reduction—*i.e.*, not more than is observed during natural sound sleep. This shows that the drug has not only no poisonous effect on the heart, but does not even effect its action in any nominal degree. Dr. Kny, after having proved the harmlessness of the new substance on animals, went a step further and tried the drug on patients. He gave it more than one hundred times in thirty-one different cases of insomnia; in some of these cases he had previously given chloral hydrate, so that he had an

opportunity of comparing the therapeutic value of the two drugs. Chloralamid had a favourable effect in all cases of insomnia caused by nervous excitation, if not accompanied with intense physical pain; furthermore, in all cases where some organic lesions, such as phthisis, heart disease, pleurisy, etc., caused the sleeplessness. Old patients with weak hearts slept very well after chloralamid, which they took without showing any unpleasant symptoms. As a rule the chloralamid sleep was deep, refreshing, and sound; its duration varied between six and ten hours. In the morning the patients woke with perfectly clear head, and without any derangement of the digestive organs. Sensation of weight in the head, general malaise and unpleasant taste in the mouth, complaints quite common after chloral hydrate sleep were, Kny states, never heard of after chloralamid. He considers that another important advantage of the latter consists in its not irritating the mucous membranes in the least. A 10 per cent. solution applied to the conjunctiva did not cause any burning sensation, whilst intense pain is felt by similar application of chloralhydrate solutions. Regarding the methods of administration, he recommends to dissolve the drug in some wine or other similar alcoholic beverage. Given in this method, even patients of very weak constitution and deranged state of digestion had no ill effects whatever from it. Besides the drug may also be administered in wafers. Kny lays particular stress on the important property of chloralamid, not to affect the heart and the general circulation of the blood. This combined with the absence of secondary effects, and the nearly complete tastelessness of the drug, form, according to Kny, the chief important advantages of chloralamid over chloral hydrate.

In concluding he recommends the hypnotic for the following cases:—Sleeplessness in consequence of nervous irritation of medium severity, neurosthenia; organic lesions, such as phthisis, heart disease, spinal affections, etc., and in all cases of insomnia not brought on by intense pain or general excitatory state of the whole nervous system.

Dr. Hammerschlag publishes in the *Allgemein Medicinische Centralzeitung* the following combination of remedies, from which he saw excellent results in the treatment of migraine.

℞ Caffein citrat..... gr. 1½
Phenacetin..... gr. 3
Sacchar. lactis..... gr. 5
S. One powder to be taken every two or three hours.

The *Berlin Klinische Wochenschift* contains an interesting article of Dr. Rennert, of Frankfort-on-the-Main, on the treatment of diphtheria with acid corrosive sublimate solution. The author used a solution of ten grains of corrosive sublimate, thirteen grains of tartaric acid, and one pint of water. A straight dressing forceps, with a pad of cotton-wool, one inch long and half an inch thick, is dipped into the solution, and swept over the pharynx from below, upward. The false membrane comes off, and the remaining slightly bleeding raw surface is disinfected by this process, which has to be repeated every six or twelve hours. One single procedure lasts from five to twenty minutes, ten to twelve pads of cotton-wool being frequently required for one single thorough disinfection. The author reports very remarkable success with this new treatment; but he distinctly stated that for obtaining really good results, energetic action, notwithstanding bleeding, vomiting, and objection of parents, is quite indispensable. During a course of fourteen months he treated sixty-two cases in the way stated above, and the result was without exception successful in all cases.

The same paper contains an article by Dr. Hobwasser on the decomposition of evaporating chloroform by the action of gas burnt in the same room where the administration of chloroform is proceeded with. Chloroform vapours thereby undergo decomposition into phosgen, hydrochloric acid, free chlorine, and a few yet unstudied substances which undoubtedly possess toxic properties. The author therefore cautions against the use of chloroform near gaslight, and recommends thorough ventilation of every operation, theatre, or other rooms where chloroform is being given.

An interesting case of creolin poisoning happened the other day at Berlin. A labourer, employed in a chemical factory, with the intent to commit suicide, swallowed not less than eight ounces of creolin. Dr. von Ackeren, who published a detailed report on the case, observed only very slight and passing symptoms of poisoning, whilst the patient perfectly recovered. The fact that a dose of eight ounces was not sufficiently toxical speaks greatly in favour of creolin, which, though a powerful disinfectant, is comparatively harmless to the human organism. If we consider that the tenth part of carbolic acid would have proved fatal to the man, we cannot deny that it is of great advantage to possess non-poisonous antiseptics like creolin.

Reviews.

The Diseases of Children, Medical and Surgical, by Henry Ashby, M.D. Lond., M.R.C.P., Physician to the General Hospital for Sick Children, Manchester, etc.; and G. A. Wright, B.A., M.B. Oxon., F.R.C.S. Eng., Assistant-Surgeon to the Manchester Royal Infirmary, and Surgeon to the Children's Hospital. London: Longmans, Green and Co. 1889.

[Concluding Notice.]

Tuberculosis comes first among the general diseases; here it is remarked that tubercular affections in children are not so limited to the lungs as in adults, but are more widely distributed through the body, and that the stress of such lesions is first in the chest, next in the abdominal organs, then on the head, and, in the last stages, on the membranes of the brain. It is noted, p. 297, that miliary tubercles in the choroid may be an early sign in acute tuberculosis. Further on (p. 299) we find "that all scrofulous or strumous lesions are identical with tuberculosis;" and the following:—"In certain children there is a characteristic tendency to inflammation from trivial causes; this inflammation is specially apt to occur in, or rather pick out the lymphatic tissues; once aroused, it tends to spread, attacking often distant parts of the body. If its course is slow the foci of disease tend to become caseous; once started, the process seldom stops, or rather, though it may be arrested for a time, it is apt to be set going again by slight causes, even after long intervals of time. This tendency is found to run in families, some members showing one form of lesion, some another." The surgery of the lymphatic glands is well given. That of tubercular bones and joints is found from pp. 509 to 572. We quote from p. 512:—"The usual history of a case of chronic

tubercular synovitis of the knee-joint in a child is as follows. There is perhaps a history of phthisis or joint disease in the family; the child has been healthy, till at the age of, say, four years it was attacked by measles or some other exanthem. It was slow in recovery, and was never quite strong afterwards; a year later perhaps, it received some injury to the knee. Shortly after the knee swelled, but gave rise to no great pain or inconvenience, except a slight limping and feeling of tiredness; the swelling slowly increased and become somewhat more painful, especially at night, with night startings." A foot-note strongly insists upon the fact that tubercular disease of joints may go on for months, getting worse, without pain and but little impairment of mobility. This might have formed part of the text. Sometimes a note is used for supplementary facts; thus, to the statement that of 125 cases of joint disease only six were consecutive to measles, four to scarlet fever, two to typhoid, and three to whooping-cough, is a note that of 192 joint affections, in forty-three there was a tubercular family history, in sixty-one the disease had followed an injury, and that in nineteen patients the tubercular lesions were multiple. We notice, chiefly in the surgical pages, more than fifty such additions, many of which might well have come into the body of the work, even at the sacrifice of some wood-cuts to make room for the larger type.

In the five chapters on "Diseases of the Nervous System," both authors are seen at their best. The opening remarks on Meningitis, and the section on *Diagnosis*, afford much that with difficulty we refrain from quoting, and must be content simply to commend. After Chorea come sections on Epilepsy, Eclampsia, Hysteria, Headaches. Here we read:—"In sensory hysterical disorders, such as headaches, and in various forms of paralysis, the question is whether or not there is cerebral tumour or spinal disease. Probably the commonest mistake is to assume that organic disease exists when the condition is one of hysteria only; . . . it is always necessary to bear in mind that an organic lesion may exist and yet undoubted hysterical symptoms be present" (p. 418). In these chapters infantile paralysis or anterior polyo-myelitis, essentially a spinal disease, is separated from infantile hemiplegia and spastic paraplegia; but in chapter xxii. it is remarked (p. 387) that "An *anterior polyo-myelitis* may be of hemiplegic distribution." Hemiplegia in children is mostly from embolism, and rarely from cerebral aneurism; among its other cerebral symptoms, convulsions or increased tendon-reflex are noted. In cerebral tumour it is remarked that the headache or special vomiting without optic neuritis and certain paralyses would not suffice to establish the presence of organic disease or guide to its localisation. On the surgery of this subject, and of cerebral abscess, it is said (p. 384), "At present only those growths which lie in or near the surface of the cerebrum have been successfully dealt with; tumours at the base of the brain, or involving the basal ganglia, may be looked upon as inaccessible to surgery at present, and, though cerebellar growths are not beyond our reach, but little has been done for their removal. Surgery chiefly deals with growths situated in the motor area of the cortex, since the localisation of the tumour is most satisfactorily to be made out in this region." It is further remarked that, "on the one hand, the brain in childhood is more tolerant of operation than in the adult, and on the other hand, brain lesions which prove fatal to adults are not only recovered from in children, but may leave little or no permanent effects." In cerebral abscess, where the symptoms of tumour mostly follow upon a rigor or other febrile sign, "there is little hope in any method of treatment, except operation." The frequent connection of this and other cerebral lesions with affections of the middle ear is treated of at p. 602, but no new statistics are given.

We know from Bürkner that of eleven deaths from this cause, six were owing to meningitis, three to intra-cranial abscess (two cerebral and one cerebellar), and two from pyæmia or phlebitis. Instances of ear disease after measles, scarlet fever, and small-pox, are noted—that of the latter, at p. 604, is not indexed; indeed, neither the words small-pox nor variola have a line in the index, and the short notice of so important a disease points to a want our present system of special hospitals occasions. Chapter xxvi. treats of diseases of the kidney; the causes of hæmaturia are considered, and its significance in purpura, hæmophilia, the acute fevers, calculus and malignant disease. Hæmoglobinuria occurs in children. Among styptics hamamelis is twice spoken of (pp. 312, 454), but we are glad to see a mention at the latter page that where it fails gallic acid and ergot are efficacious. The eminently practical tendency of the whole book is shown by scattered comments on medicines likely to be useful, in addition to the fifty-four formulæ embodied in the text; in one of these (No. 22) a slight typical error occurs. The appendix contains directions as to milk, barley-water, whey, meat-juice, &c.; also as to poultices, fomentations, sponging, packs, baths, ice and other anti-pyretics. Five pages are devoted to the doses and usage of medicines and of stimulants; directions for forced feeding and the use of disinfectants come at the end. The great utility of this summary is obvious; we have but one omission to note—viz., that of castor oil, from the list of purgatives and laxatives. Castor oil should come at the head of the list, and a formula for an emulsion of it, as in use at most London hospitals, might have been given, such as No. 6, p. 64, or for a similar mixture made with hot water and sugar at home. Some exception may also be taken to the prominence given to grey powder and calomel; that the former is very frequently misused is not in itself a warrant for the continuance of the practice. We find both these drugs often, and antimony sometimes, ordered to be repeated indefinitely, as in Nos. 19 and 22A, and in ailments so frequently associated with rickets or tuberculosis that a caution is needed. The use of euonymin, antifebrin, pyrodine, hyoscyamine or hyoscine, is doubtful; but a free trial of new remedies, and free use of the old, may be thought favourable to therapeutic progress.

The intimate connection of the medical or surgical parts of the work under review has been here shown by extracts so numerous that less than a due share of comment and approval falls to the lot of the purely surgical subjects. On going through the surgical chapters their importance in repairing the results of disease are seen at a glance, and, in our judgment, the details are admirable. Both authors are to be congratulated on the achievement of a great success. We now have a complete work on the diseases of children, combining the excellencies of West with the specialities of Cooper, Forster, and Edmund Owen, but founded on original observations and the joint experiences of two men of great fitness and ability for the task, who are ready to judge of facts as they come before them, and who work together with the best practical results.

If the true function of criticism be, as it has been defined to be by no less a master of the art than the late Matthew

Arnold,—"A disinterested endeavour to learn and propagate the best that is known and thought in the world," we claim to have learned much from the book before us to add to what was already known, and to have done our best to make this source of knowledge widely available.

[In our last number an intended correction at the commencement of p. 540 is put as part of the text, and so the point missed that a cavity is *evacuated*, and the contained fluid *let out*.]

The Human Foot: its Form and Structure, Functions and Clothing. By Thomas S. Ellis, Consulting Surgeon to the General Infirmary at Gloucester. London: Churchill. 1889. 8vo., pp. 120.

It is by no means an easy task to write a review of this book. The author himself thus introduces it to his readers. "A book by a surgeon on a subject closely related to his profession, but not intended exclusively for members of it, may call for some explanation as to origin and object." The following remarks then may be assumed to furnish the suggested explanation. "The City and Guilds of the London Institute for the Advancement of Technical Education have for some years past conducted examinations in a variety of subjects: in these is included, under the head of boot and shoe making, 'The Anatomical Construction and Natural Functions of the Human Foot.' On every subject but this the names of works of reference are given, the list being often a long one, of books in English, French, and German. The want thus plainly indicated is felt by those who, in military or in civil life, or as regards either sex, desire to understand the principles of physical education, and who, knowing that the form of the body is influenced more by the manner than the amount of muscular exercise, seek to learn how to direct it. Evidence is offered that—at least in one respect—the ordinary mode of using the feet, although supported by military authority, is wrong."

Details of anatomy have, so far as possible, been avoided. Such as are necessary are given together with illustrative plates—seven in number—and explanations, which describe the bones, ligaments, tendons and muscles which contribute to form and move the feet. The two feet, the author points out, are perfectly symmetrical, while there is a marked difference between the two sides of either one, taken singly, it being of the utmost importance that those who seek to understand the mechanism of the foot should fully realise this absence of symmetry between the inner and outer side. The structure of the arch is treated of at considerable length. Mr. Ellis has also fully entered into the consideration of the analogies between the human and other mammalian lower extremities, as regard their ligaments, muscles, and bones, and the various positions and attitudes these severally assume. The functions of the feet in standing, walking, marching, etc., are treated of in relation to the make of boots and shoes. This subject is discussed in a strictly scientific spirit, and may with much advantage be studied by military authorities.

In the preceding remarks we have endeavoured to put before our readers the sum and substance of an essay which embraces a wider range of topics than would have been anticipated from its title, and from which, we are of opinion, great advantages may be reaped, both in civil and military as well as medical circles. W. B. Kesteven, M.D.

Short Notices.

Synopsis of Human Anatomy. By James K. Young, M.D. Philadelphia and London: F. A. Davis. 1889. 8vo, pp. 393.

The object of this little book is, as its title indicates, to furnish a concise, thorough, *complete synopsis* of human anatomy for the use of students of medicine and others. Appreciating, from personal contact with students, the limited time at their disposal and the unlimited amount of medical material to be digested, the author has endeavoured, by well-selected woodcuts, typographical arrangement, and numerous tables, to facilitate the acquisition of a subject as difficult as it is essential, and elegance of diction has therefore been sacrificed to conciseness and accuracy. Sufficient descriptive matter has been added in reference to the sections on the viscera, special senses, and surgical anatomy, to render this work useful to the practitioner. To the advanced student it will prove valuable as an aid to memory. We should characterise it as being a clear, concise, and compendious summary of the anatomical details, which are to be found more fully described in the larger treatises of Quain, Holden, Henle, Schaffer, Klein, and others.

W. B. Kesteven, M.D.

The Ophthalmic Review. London: Churchill.

The *Ophthalmic Review* for August contains the second lecture by Marcus Gunn "On Congenital Malformations of the Eyeball," delivered at the Great Ormond-street Hospital. He deals with affections of the eye-lids, cornea, iris retina, and choroid, concluding with an explanation of the cause of coloboma of the choroid. The same author makes a suggestion that the cause of traumatic cataract is to be sought in the action of the chloride of sodium of tne aqueous on the globulin of the lens, and further that the solution of a cataract after puncture of its anterior capsule is due to the fact that globulin is normally soluble in dilute saline solutions, like the aqueous. The rest of the number consists of reviews, an abstract of the transactions of the last meeting of the Ophthalmological Society, and a list of recent literature.

W. T. Holmes Spicer, F.R.C.S.

The Clinical Use of Prisms, and the Decentering of Lenses. By Ernest E. Maddox, M.B.

This little book treats of an important but much neglected branch of ophthalmology; partly from the inherent difficulty of the subject, and a consequent want of precise knowledge, and partly from insufficient data, prisms have not been used by surgeons to the extent which their value demands. Many of the most troublesome ocular affections, slight muscular defects, and anomalies of innervation can only be successfully treated by prisms. The author supplies in a very clear form, a guide to the properties and uses of prisms, and to the decentering and displacement of lenses; the book contains useful tables for the measurement of prisms, the analysis of spectacles, and for showing the prismatic effects of decentering lenses, obviating the necessity of recourse to mathematical formulæ. Perhaps the author aims at a greater degree of accuracy than can always be obtained in dealing with such variable quantities as muscular innervation, but this is a fault on the right side.

W. T. Holmes Spicer, F.R.C.S.

The Provincial Medical Journal,

OCTOBER, 1889.

The presidential address of Dr. Hack Tuke at the Leeds meeting of the British Medical Association is deserving of the careful attention not only of the profession, but of all interested, as ratepayers and as managers. The future provision of our lunatics is becoming an important social question, as it involves an enormous outlay, to which some check must be put, or some remedy be suggested. It is only by free discussion we can arrive at a solution, and the historical sketch given by Dr. Hack Tuke must be regarded as a *memoire pour servir* towards the settlement of this most important question.

Dr. Tuke began with a reference to the Lunatic Hospital at York, generally known as the Old York Asylum, founded in 1777, which was now an attractive institution, containing 135 patients on January 1st, of whom forty-six were paupers. Taking the estimate of Dr. (afterwards Sir William) Ellis, the proportion of pauper lunatics in 1815 to the population of the country would be one in 1,300, whereas now it was one in 560. The Wakefield Asylum was constructed to accommodate 150 patients on what was called the H plan, and was opened in November, 1818. The grave defects in the Wakefield Asylum arose from those who planned it having lived during the earliest stage of development in asylum architecture. In 1846 the population of the Wakefield Asylum reached about 450. In ten years the number advanced to close upon 800; while in 1871, just before the opening of the second West Riding Asylum at Wadsley, the highest number in the history of the institution was reached, 1,494. The number resident on the 1st January last was 1,354. The Wadsley Asylum was built to accommodate 750 to 800 patients, and was opened in August, 1872. On the 1st January last, however, it contained 1,616 patients, while the population of the Riding at the census of 1801 was about half a million, at the present time it was two and a half millions. The consequent demand for additional accommodation for pauper lunatics led to the erection of Menston Asylum, opened in October, 1888. The buildings now erected would accommodate 840 patients; and those for chronic cases, designed but not erected, another 250 or 300 of each sex, making a total of 1,440 patients. He thought it would have been wise at the present crisis in the history of county asylums if the magistrates had avoided anything in the way of costly embellishment calculated to prejudice the mind of the ratepayer on entering the building. Without the expenditure of so large a sum, the structure might have been as substantial, while cheerful surroundings could also have been still obtainable. On visiting the asylum he could not help thinking that it might very possibly be utilised some day, to a certain extent at least, as an asylum for the middle and even the upper classes, some of whom at present occupied much humbler quarters in private asylums and registered hospitals. To some of the poor labourers of the county it was probable that a more homely or more home-like dwelling would have been no less adapted to the comfort and cure of the inmates. He hoped before the remaining blocks were built consideration would be given to doing away with passages, seeing that patients residing in blocks would be of the chronic or more or less incurable classes. As to the Menston Asylum, visitors would be welcomed at any hour during the meetings. In the North Riding Asylum at York there were on the 1st January last 622 patients; in the East Riding Asylum at Beverley 291 patients; and in the Hull Borough Asylum at Cottingham there were 300 in residence. But besides these, Yorkshire had shares in the provision for the education and training of idiots and imbeciles in connection with the Royal Albert Asylum at Lancaster. Of 553 patients in that asylum 180 belonged to Yorkshire. According to the census of 1881 there were in Yorkshire 2,903 idiots and imbeciles, whether paupers or not, who were at the rate of 1 in 997 of the population; while the proportion in England and Wales was 1 in 794. As an instance of a serviceable workhouse where lunatics were treated, the President cited that at York, under the charge of Mr. S. W. North, there were 120 patients, and during the last fifteen years the annual admissions had averaged twenty-six. Of 256 discharges during the fifteen years, eighty-two were sent to their friends, thirty-seven to an asylum, and 131 died. Mr. North calculated that the saving to the ratepayers of the York Union by properly utilising the workhouse for insane paupers was not less than £1,000 a year, but no case had been kept in the workhouse to the prejudice of the patient. The number of insane in detention in Yorkshire workhouses was 1,316, or 22.26 per cent. of the total pauper lunatics in the county; while 330, or 5.58 per cent., were resident with friends or elsewhere. There were 4,265, or 72.16 per cent., in asylums; while the percentage in England and Wales was 69.01 per cent. The recovery rate in the Yorkshire asylums had been 39.69, and in England and Wales 35.57. Unfortunately, medical men were yet found endeavouring to explain the apparent increase instead of decrease of insanity. The superintendent of the Wakefield Asylum, from knowledge of the masses from which his patients were derived, was led to form a very unfavourable opinion of the mental status of many outside our asylums. Hence to the prevention no less than the cure of insanity must their future efforts be bent.

The question of future provision for pauper lunatics was treated also by the President, and in this paper there were many suggestions of great value. He discussed the question of boarding out pauper lunatics with strangers; the payment of a more liberal sum to the relatives for which workhouses ought to be utilised; the operation of the Government grant in aid of pauper patients confined in asylums; and lastly, the advisability for providing separate buildings for the acute and chronic cases. Reference was made to the experience of Dr. Mitchell, the late superintendent of the Wadsley Asylum, Dr. Major, the former, and Dr. Bevan Lewis, the present, medical director of the Wakefield

Asylum, as opposed to the boarding out of pauper lunatics with strangers. On the other hand, it was shown that the remuneration of relatives for taking charge of their insane friends works favourably. Dr. Buckworth William's experiments at Hayward's Heath was adduced to show what could be done in this direction. Evidence was afforded that the use of workhouses in Yorkshire had been resorted to with advantage. The Commissioners in Lunacy favour increased use of the workhouse for chronic cases, provided there is proper accommodation in the lunacy ward. The effect of the capitation grant in filling asylums wtth chronic cases was insisted upon. The Local Government Act and the Lunacy Act were referred to in relation to it. In regard to asylums, the buildings for acute cases should be distinct, although in close relationship with the central establishment, and be more expensively built than the blocks for chronic patients. Hospital arrangements for the sick and acute were advocated, but too much had been expected from medical treatment of recent cases, a large proportion of patients brought to asylums being incurable, even when recent. The discussion which followed was a very useful one, as it was joined in by men of great experience and sound judgment.

Dr. Ringrose Atkins (Waterford) thought boarding out could be carried on in Ireland under a colonisation system. In that country the workhouse authorities did not receive State aid for lunatics, and the insane were quickly transferred to the asylums. Workhouses should be utilised. Time was the test to be applied as to the condition of a patient. Hospitals would largely aid in gaining scientific acquaintance with brain disease. He favoured the building of asylums in blocks, by which means patients could be relegated to their proper quarters. The hurry and worry of the day tended to insanity in more incurable forms, and hence the percentages were not so favourable.

Mr. S. W. North (York) said he had advocated the treatment of incurable patients in workhouses, and was glad the idea was becoming fashionable. Great reform was needed in the early stages of the management of lunatics, as a large number of persons became insane for brief periods, and if they could have probationary treatment they would recover, many cases being due to want of food, intemperance, and a variety of circumstances.

Dr. Bevan Lewis (Wakefield Asylum) considered the provision for stemming disease in its incipient stages inadequate. A clinical staff would improve the tone of the asylum medical ordinary staff; whose assistants, too, should be supplemented. If they were to progress, they would require individualised observation and treatment. Boarding out in Yorkshire he regarded as impossible, owing to the density of the population and the great facility for communication. With an enlargement of the workhouse accommodation, more frequent medical attention, more skilled nursing, they might trust a large percentage of pauper lunatics to the care of the Guardians.

Dr. Douglas (Leamington) and Dr. Wiglesworth (Prescott) having spoken, Dr. Yellowlees (Gartnavel Royal Asylum, Glasgow) thought boarding out in agricultural counties might be encouraged. As to having separate institutions for the treatment of lunatics, Yorkshire had been particularly unfortunate in having distinguished men in care of the insane, so that the evils of joint institutions had not been fully recognised; and hence the West Riding had perpetuated at Wadsley, and now at Menston, what he believed to be a noble and magnificent mistake. We should have brain infirmaries, as well as eye and ear infirmaries, where patients could be first sent for consideration. One of these infirmaries in every large centre in Yorkshire would have been a much wiser and not more costly idea than the erection of the Menston Asylum.

Dr. Nicholls (Bloomingdale Asylum, New York) said that the State asylums in America corresponded with the county asylums in England. The States were being divided, however, into asylum districts, so as to make it accessible to the patients to be accommodated. The Willard Asylum had been provided altogether for the chronic insane; but this and others were too remote, and they were supplemented by cheaper buildings.

Dr. Merson (Hull) thought the plea that boarding out would not answer in Yorkshire was disproved by its success in Hull, where the population was dense. He feared that persons would not be very ready to take advantage of brain infirmaries. It was quite time the struggle as to the lowest maintenance rate should be put a stop to.

We have on several occasions reviewed the progress made in the treatment of consumption; and when sounding, as it were, so as to see in what latitude we were, we have found that so far as the indications held out, we have been sailing over the antiseptic sea. Consumption has been cured over and over again under almost every conceivable form of treatment, and since the anti-parasitic method has set in the cures wrought, by internal and external antiseptics, are no less wonderful than those wrought by the notorious Dr. Ramadge. M. Paul Cheron has recently, in the *Union Médicale*, given an analysis of the various new medicines used in the treatment of pulmonary phthisis. He has taken as the basis of his article the work published by Dr. Gilbert, of Geneva. Dr. Gilbert has classified the new anti-parasitic agents employed, in the following manner: (1) Medicinal inhalations; (2) pulverisations; (3) gaseous enemas; (4) injections; (5) internal antiseptic medication; (6) modification of the soil; (7) other external methods.

1. *Medicinal Inhalations.*—Carbonic acid has been tried since the work of Weill. Nothnagel and Rossbach believe it to be more hurtful than useful. Sulpho-hydric acid has been employed by Allevard, and studied by Niepce, on animals and human beings, who finds that the cure is frequent in the first and second degree, but in the third degree the disease progresses to a fatal issue. Sulphurous acid has been used by Dujardin-Beaumetz with great benefit, so far as regards the diminution of the expectoration

and the cough. Inhalations of benzoate of soda are useless. Prof. Sanchey Herrero (Valladolid) has proposed the balsamic inhalations, using Waldenburg's compressed air apparatus, interposing in the tube a flagon containing either essence of menthe or humid powder of iodoform. Dr. Ransome advises inhalation of ozonised oxygen 3 per cent., submitted to a pressure of from six to eight kilogrammes. He administers at the same time pilules of iodoform and cod-liver oil. The result has been that thirty phthisical patients have experienced diminution of night sweats and fever. There has been no change in the phthisical signs. Fluorhydric acid has been much more largely used. Scilla notes in ten cases improvement in the local and general states. In 1888, at the Congress on Tuberculosis held in Paris, Raimonde gave the results of this form of treatment on 128 patients. He noted twenty-eight cures, with disappearance of the bacillus. Eighteen patients with cavities have been much improved. Galger has obtained favourable results: in seventeen cases he observed five times complete disappearance of the bacilli in the sputa, with a considerable diminution of the phthisical signs; in seven cases he obtained a notable local improvement; twelve patients increased in weight, but the increase was not in constant relation with the local improvement. Two patients suffering from laryngeal phthisis suffered from inflammatory complications. Audollent draws the following conclusions from seven cases: Inhalations of fluorhydric acid appear to act more on the general health of the tuberculous than on the pulmonary lesion. The most marked effect is certainly the return of the appetite, while the dyspnœa, too, is modified. Gilliard has treated forty-six patients, and he believes that the inhalations are useful in the outset, and even in the state of softening, but the treatment should be conducted with care in emphysematous or rheumatic patients. He does not consider hæmoptysis or laryngitis contra-indications. Dr. Brunet has not recorded very encouraging results. He recognises the good effect on the appetite, but he attributes the improvement in sweats, dyspnœa, increase of weight, to the absolute rest enforced on the patient. Dr. Tisne has employed fluorhydric inhalations on forty-six patients, thirty-two of whom had not passed the second stage. Thirteen improved, sixteen remained stationary, and three became worse. Gilbert has employed the following solution: Fluorhydric acid, 300 grammes; water, 300 grammes. He has experimented on thirty patients—nineteen ameliorated, three aggravated, five died. The number of sittings has varied from 16 to 120. He notes the improvement of the appetite in all patients. Gilbert concludes that fluorhydric acid gives better results than other modern treatment. Dr. Cheron says on this that all the world is not of M. Gilbert's opinion, and that the only conclusion to be drawn is that the improvement which has resulted in some cases is no more remarkable than the improvement brought about by simple hygienic rules. We cannot despise the improvement of the appetite, especially in the phthisical, but the cures which were announced with so much *éclat* are not substantiated.

2. *Rectal Gaseous Injections.*—The Bergeron method is becoming less and less employed. It was taken up with great enthusiasm by some American physicians, and many kinds of apparatus were devised by ingenious instrument makers. It had no scientific foundation, and we need not waste any more time over its consideration.

3. *Pulverisations.*—MM. Nuguel and Rueff employed a solution of 1 in 1,000 of the biniodide of mercury under pressure. They have treated twenty-seven patients, nineteen ameliorated, eight stationary.

4. *Injections* (*Subcutaneous*).—Gilbert has employed eucalyptol, but without success; and Shingleton Smith has used phenate of camphor, but he has only experimented on two patients, with such results, however, that he thinks it worth while to repeat his attempts at local antisepsis. Intra-parenchymatous injections are now almost abandoned, even by their promoters.

5. *Internal Medication.*—A great number of new medicines have been employed. A few only are deserving of serious consideration. Dochmann and Martel praise calomel as one of the best of antiseptics; it produces diminution of the fever, sweat, and cough. Sticher has studied the administration of iodide of potassium. It is indicated when there is chronic interstitial pneumonia, fibrous phthisis, adhesive pleurisy, etc. There are certain contra-indications for its use, as hæmoptysis, lesions of the larynx, œdema of the glottis, interstitial nephritis, amyloid degeneration of the kidneys, purpura, pemphigus, and weakness of the heart. The iodide should not be given in a group in which the bronchal mucous membrane is affected. Laskoff has employed with success homeriana, a polygonaceous plant, which grows in Russia in the wild state, and which contains an irritant oil, which appears to be an irritant principle. He prescribes a decoction of infusion of the plant in affections of the respiratory passages, and especially in bronchitis and tuberculosis, curing 90 out of 112 cases of tuberculosis. The improvement is shown by lowering of the temperature and diminution of sputa. We need only mention two other substances—mutesia vicifolia and euchristine. Lashkeurck employed borate of ammoniacum in doses of thirty drachms three times a day, giving at the same time codeine and other sedatives.

Dr. Lamargne has just published an interesting work "On the Principal Modifications and Contra-indications and the Influence of Certain Mineral and Climatic Stations in the Treatment of Phthisis." According to Dr. Lamargne, we should not send a patient (1) in the acute or subacute stage; (2) who has hectic fever; (3) or who has pulmonary lesions generalized. In all these cases the fatigue, the change of habits, and the treatment, accelerate the fatal issue. The favourable conditions are, that the lesion be circumscribed, the form apyretic and chronic. Loss of appetite is an indication, for one of the first effect of hydro-mineral treatment is a re-awakening or increase of appetite. A good time to send the patient is when there is a remission of the symptoms. The principal French stations for tuberculosis are Allevard, of which we have already spoken,

Amelie-les-Bains, Cauterets, Les Eaux-Bonnes, Enghien, La Bourboule, Le Mont-Doré, Saint Honoré, Vernet-les-Bains. They are divided, according to their effect on tuberculous patients, into waters sedative and exciting, and are classed accordingly in decreasing order. Eaux-Bonnes, Cauterets, La Bourboule, Amelie-les-Baines, Saint Honoré, Allevard and Enghien, Mont-Doré and Cauterets represent the stations mixed, as all are more or less exciting according to their altitude. The tuberculous may be divided into torpid, with languishing nervosity, neuropathic, disposed to sanguineous congestion. The types may be mixed; the torpid must be sent to an exciting station, the excitable to a sedative station; Amelie-les-Bains solicits asthmatics and phthisicals; so the waters are divided into different classes. The patient should proceed to the station by easy stages selected, taking special hygienic precautions as regards clothing if it be in the mountains. The treatment should be conducted with the greatest care, so as to avoid complications; rest being enforced, and the most minute care being taken.

6. *Modifications of the Soil in which the Microbe Flourishes.* — Under this heading is included medicine, necrophytic, sur-alimentation, air. In the first place is to be placed arsenic, much vaunted by Buchner, and he has given it with the object of destroying the bacillus. Jacobi has also administered it to infants, in small doses. Feeding by means of a system known as Gavage has succeeded in certain hands, but it is not popular. Air plays an important part in the cure of phthisis, but this is really included under health resorts. We shall return to this subject again.

During the International Congress on Legal Medicine, lately held in Paris, the important subject of expert testimony in criminal cases came up for discussion. Many suggestions were made as to the best method of protecting the interests of the accused, and at the same time of vindicating justice. Amongst the chief speakers were some eminent legal professors, and it may not be without profit to give an abstract of the opinions expressed by some of the principal speakers.

MM. Guilliott and Demange drew up a number of conclusions, two of which were to the following effect: "The examining magistrate should be present at all *post-mortems* and examinations, in order to supply the expert with information and facts capable of throwing light on his researches." "The solicitor for the defence shall be present, in order to point out to the expert the objections for the defence." These two propositions formed the basis of discussion.

MM. Demange and Guilliot expressed themselves in favour of having an expert on the side of the prisoner, and this principle seems to be recognised in France and in Belgium; and the Congress so far ratified the principle that it passed the following resolution: "To protect the interests of society and the accused, there must be for all expert work not less than two experts. These experts, to be named by the examining magistrate, shall have the same rights, take the same oath, draw up one report, and receive the same rate of pay from the State." M. Moreau gave the weight of his authority to this proposal. Several speakers pointed out the difficulties there would be in carrying out this resolution; as, for instance, in certain provincial towns it would be difficult to find physicians of equal standing; and even in towns where a school of medicine is, the professor of medical jurisprudence would have an advantage over the expert who was not attached to a school. The official report would, of course, have to be submitted to a jury, and the expert be examined upon the report; and it is to be feared that with the jury the professor of medicine's evidence would have a greater weight than that of the other expert, but these are difficulties which could be overcome.

The Congress passed another very important resolution: "That the experts should be chosen out of official lists drawn up by public authorities, and by scientific bodies designated for that purpose." This appears to be an excellent proposition. When experts disagree, who shall arbitrate between them? This phase of the question was fully considered, and the following proposition adopted: "The system of the plurality of experts demands the establishment in the faculties of medicine of a superior council of legal medicine, whose duty it shall be to act as an ultimate court of appeal for disagreements between experts." The realisation of such a project appears to us to be very remote—certainly so far as England is concerned. Several other very important conclusions were suggested by MM. Demange and Guilliot, as, for instance, the following. "A course of study covering the general principles of legal medicine shall complete in the faculties of law the study of criminal procedure." "It is expedient, to facilitate the studies of legal medicine, to adopt, as an exception to the secrecy of the preparation of the case, that the *post-mortem* shall take place before the students following the lectures (as the habit has already been formed), the judge still keeping his right of veto." "It is advisable to form in institutions devoted to legal medicine, or in the record offices, archives and collections of objects that have served to convict criminals under the direction of magistrates and experts."

These conclusions are very important, and we believe are possible of realisation; and when we have students who have been trained on these lines, we shall have no difficulty in the selection of experts. The Maybrick case afforded an instance of disagreement between eminent experts, and it would be pleasant for the profession to have some system by means of which such differences might be settled without the publicity. Faith in the evidence of experts has been very much shaken by this trial. The conditions of France are rather different from those of England, and some of the resolutions passed at the Congress would have to be very much modified before they could be adopted in England, but the general principles which underlie these resolutions are applicable to all countries.

We have published from time to time several articles dealing with the subject of puerperal fever, and we have insisted upon the necessity of carrying out in connection with labour the strictest aseptic conditions. This may be achieved in many ways, though it is not necessary for success to use what we call antiseptics. We publish in another column an excellent practical paper, which confirms our views on this point. Puerperal fever is rare in careful, well-conducted midwifery practice; but we fear that it is far too common in midwifery as carried on by untrained midwives, and by the class included under the name of clever women. The poor require midwives. It is rather late in the day now to insist upon the necessity of trained midwives. The following case, taken from the columns of one of the daily papers, conveys a painful lesson, and shows us how far ignorance can go, and the destruction following on ignorance: At an inquest held on September 16th by Mr. Wynne Baxter, on the death of a woman from puerperal fever, the evidence showed that the mother and aunt of the deceased were in the habit of attending confinements, although they were unqualified. The aunt was reported to have delivered the deceased. It was, however, stated that the mother was present in the room at the time; and there was no evidence to prove that she did not make the examinations, although the aunt effected the delivery. It appeared from the evidence elicited at the inquest that the mother, Mrs. Lyddon, had had six other deaths in her practice since July 24th. She had received a warning from the coroner at an inquest held on August 5th, on one of her fatal cases, that she was not to attend any cases of midwifery for at least a fortnight. She did not pay any attention to this warning, and several of her patients died. The lay papers headed the account: "Deaths from Puerperal Fever—Extraordinary Evidence."

The contagious nature of puerperal fever has long been recognised by the profession; and before the days of antiseptics, we have had strict injunctions laid down on the precautions to be taken in the presence of this fatal disease. All the old writers insisted upon the necessity of the abandonment of midwifery practice for a time after the primary case. This rigid rule has been modified in modern times, for it has been proved that by strict precautions the danger of conveying the infection may be obviated. This woman erred in ignorance at first, but when warned by the coroner she persisted in the pursuit of her avocation, and here her conduct calls for animadversion. We believe we are correct in saying that she did not bring herself within reach of the law, even though death followed in her wake. The patients employed her at their own peril or risk. A charge of malpractice would follow against any medical man who acted as this woman acted. The law discriminates, but it leans, unfortunately, to the side of the unqualified. We trust that this terrible story may direct attention to the state of the law in England which allows anyone to practice midwifery, however imperfectly educated or ignorant. There is very little excuse at the present day for this state of things. Training in midwifery is brought within the reach of all who desire to take this pursuit up as a means of livelihood. Our lying-in hospitals open their doors on the most liberal terms. Some of our societies conduct examinations and give certificates to midwives. It is unjust to those who have gone through a course of training and examination to allow such women as the one recently brought before Mr. Baxter to pursue their calling. This is a question for the women of England to take up and to agitate upon. It is evident that the poor require protection, even against themselves. Trained nurses are an absolute necessity of our civilisation. The poorer classes evidently cannot discriminate. The remedy is simple.

Annotations.

"Forsan et hæc olim meminisse juvabit."

OUT-PATIENT REFORM.

The most grievous defect in our hospital system arises from the abuse of the out-patient department. We do not desire to be dogmatic, but we believe this point is conceded by all who have made a special study of the subject. We want the poor to reap the fullest benefits from our charity, but unfortunately it is not the poor who fill our out-patient rooms. People in good circumstances, and who are well able to pay, cadge on our charity, to the injury of the general practitioner, the latter being compelled, by the force of competition, to resort to all kinds of devices to make a living. There are difficulties where schools of medicine are concerned, and where teaching pabulum is required in divising a remedy for this abuse; but we believe that these difficulties are not insurmountable, that general practitioners have it in their power to settle the question. It remains to be seen whether they are willing to help.

A PHILANTHROPIC SCHEME.

We learn from the *Medical News*, U.S.A., that some young women college graduates, residing in New York City, propose to make a settlement in a bad tenement-house district, for the purposes of dispensing philanthropy and sanitation. Funds amounting to $3000 are in hand, and a large house of the olden time, near Ludlow-street, has been secured for occupancy next September. The young ladies will live there, in a locality of squalor and hopelessness, doing what they can to instruct and relieve the poverty-stricken mothers and children. They will be accompanied by a female physician. It is expected that the shortcomings of the municipal officers whose duty it is to enforce cleanliness of street and domicile will be noted and reported with great particularity, and in a way that sanitary results will necessarily follow. These colonists must all be graduates, and no one will be received for a shorter stay than two months.

MIDLAND VOLUNTEER MEDICAL ASSOCIATION.

AMBULANCE FIELD DAY.

The fourth annual field day for ambulance manœuvres took place at the Staffordshire Brigade Camp at Cannock Chase, on Monday, August 5th, by invitation of Colonel T. T. Fisher and officers of the 2nd Vol. Batt. South Staffordshire Regiment. The ambulance men of the 1st Vol. Bat. Royal Warwickshire Regiment with their waggon arrived by train at 11 o'clock at Hednesford Station. The South Staffordshire battalions sent their ambulance detachments to meet the visitors, together with the bugle band of the 1st North Staffordshire, headed by which they marched up to the camp. Surg. Major Clark, of the 2nd South Stafford, was in command, there being also present Surg. Partridge, acting as adjutant in the place of Surg. Wilson, who had unfortunately met with a severe accident, and Surg. E. L. Freer (1st Vol. Bat. Royal Warwickshire Regiment), the hon. secretary of the Association. Detachments from the 1st Notts Rifles (Robin Hood), in their neat green uniform, and from the 1st Derbyshire Regiment arrived later, as did the ambulance detachment from the 2nd Vol. Bat. North Staffordshire Regiment, which came by the road from the Hagley camp. Rations were served out to the detachments at one o'clock. and they and the 2nd South Staffordshire Regiment paraded shortly before three o'clock for the business of the day. The following are the particulars of the detachments :—1st Vol. Bat. South Staffordshire Regiment, two officers (Surg. Major Smith and Surg. M. Jackson), two non-commissioned officers, sixteen men ; 2nd Vol. Bat. South Staffordshire Regiment, two officers (Surg. Major Clark, in command, and Surg. Partridge, acting adjutant), two non-commissioned officers, sixteen men, one bugler, and a waggon ; 3rd Vol. Bat. South Staffordshire Regiment, two officers (Surg. MacMunn and Acting Surg. Magrane), two non-commissioned officers, eight men, one bugler, and a waggon; 2nd Vol. Bat. North Staffordshire Regiment, two officers (Surg. Majors Morgan and Lowe), one non-commissioned officer, twelve men, one bugler, and a waggon; 1st Vol. Bat. Derbyshire Regiment, two officers, (Surgeon Gentles and Vaudrey), two non-commissioned officers, twelve men, one bugler; 1st Vol. Bat. Notts Regiment, Staff-Sergt. Worth, and eight men, Surgeon Major Manby (3rd Vol. Bat. South Staffordshire Regiment), acting as brigade surgeon, was also present, as were Surgeons Charlesworth and Phillips, of the 1st North Staffordshire, which regiment did not provide a detachment, but it should be stated that one is in course of formation and will be available next time. The ambulance detachments formed two companies and were drawn up in the rear of the 2nd South Staffordshire Regiment, the whole of them marching past in column, with the waggons two abreast covering the flanks following in the rear. The movements of the troops were much impeded by the presence of a large concourse of spectators, who wandered about indiscriminately between the companies. The manœuvres took place in the vicinity of the camp on the lower ground below the reservoir. After a considerable amount of wheeling and marching over some very rough ground, the attack was gone through, men falling out as wounded according to the usual plan, with tallies attached representing supposed injuries, and volleys being fired. Two waggons, those of the Warwickshire Regiment, and the 3rd South, were stationed at the left rear, where the collecting station was under Sergeant-Major Morton ; Surgeons Freer and Gentles being in command of the bearer companies, and further away two tents were quickly pitched as a dressing station. Surg. Major Morgan was here in charge, and behind these were the other two waggons. The wounded men were brought to the rear in waggons of second line, the lifting of the stretchers and the moving of the wounded being carried out strictly in accordance with the prescribed methods, but as the crowd more or less filled the spaces between the "battlefield" and the ambulance stations, the manner in which all the work was done could not be seen. The improvised splints and the bandaging on the field appeared to be smartly and cleverly done, and the detachments seem to be well acquainted with the work allotted them at the different posts, impeded as they were by the crowd's demonstrative sympathy for the wounded. The officers were entertained by Colonel Fisher and officers of 2nd Vol. Bat. South Staffordshire Regiment.

HOSPITAL ADMINISTRATION.

The Commission on Hospitals, we regret to say, will only examine into the state of the metropolitan hospitals; we did hope that the provincial hospitals would have been included in the investigation. But though the provincial hospitals do not come within the scope of the enquiry, it will still be possible for the Committee to take the evidence of some provincials, who are acquainted with the grievances and defects not only of the metropolitan, but of the provincial system of hospitalism. The abuse of charity is as great in Liverpool, Birmingham, and Manchester, as it is in London. It is only a matter of degree. London of course has the questionable advantage of possessing a larger number of hospitals than any other city ; we see no justification in this fact for the narrow scope of the enquiry.

VOTING BY PROXY.

Many arguments have been brought forward in favour of voting by proxy at the election of the Council of the Royal College of Surgeons, England. These arguments have had such cogency, and were so reasonable, that this reform has been introduced. The time has now come to consider the advisability of extending the same privilege to all members of the British Medical Association, so that those who are unable to attend should be able to exercise the privilege of voting on resolutions submitted at general meetings of the Association. There is much to be said *pro* and *con*, and we gladly offer our columns for the ventilation of the subject.

GROWTH OF AMBULANCE WORK.

It is evident that there is still great scope for ambulance work in London. There are an immense amount of deaths in that city from accidents—something like eight a day. Putting the number as low as six fatal results a day, and the total number of accidents at thirty per day, we still have numbers large enough to indicate a great deal of pain and suffering. A return from a factory district in the north-west of England, representing an operative population of six millions, gives an almost identical census of deaths and accidents as that of London. However, employers of labour and their workpeople seem to be fully realising the value of the instruction offered by the St. John Ambulance Association, and freely co-operate in forming branch associations. There is now in England no religious denomination that has not organised classes for education in this matter, and the work has extended to the remote countries of the far east. Already half a million persons have been instructed, and 170,000 certificates and 12,415 medallions have been granted for proficiency. It is to be hoped that these numbers will swell rapidly, and that there may be a great increase in the ranks of those who are not compelled by their own ignorance to stand inactive in the presence of suffering, and are unable to assist in alleviating those constantly-occurring accidents which a huge growth of population and machinery render an inevitable and daily event.

A NEW USE FOR THE PHOTOGRAPH.

The New York City Board of Health has declared war against the overcrowding of tenement-houses, and as a first step it is proposed to have positive proof as to the extent of the over-population. This is to be obtained by the taking of photographs at midnight by means of the flash-light. Some of the inspectors are photographers, and have already tried the process as a means of demonstrating and perpetuating curious unsanitary conditions in their respective districts. And now the Board has decided to adopt this graphic method as a form of official record. It will assist in making up the history of "Hell's Kitchen," the "House of Blazes," and "The Bend," and will serve to illustrate future annual reports. The Board will enforce another requirement of the tenement-house law, which is frequently ignored by the landlords, and which directs that water shall be placed on every floor of houses of that class.

PROSECUTION OF UNQUALIFIED PRACTITIONERS.

The Medical Defence Union, during the brief period of its existence, has made its power felt for the protection of the profession. Its recent action against the Birmingham quacks should commend it to the support of the profession. The substantial results obtained in the shape of fines levied on the Birmingham charlatans will hardly recoup the Council for the expenditure they have incurred in these prosecutions, so that general support must be given if the warfare is to be continued. The society is now admirably organised. Branches have been established in all the counties with thoroughly representative committees, and for the first time we have a cheap and feasible scheme of self protection. The fee for membership is small. Union makes force, and by a large membership, each contributing a mite, we can crush the hydra-headed monster.

CONCUSSION OF THE SPINE.

Dr. H. H. Smith (*Journal American Medical Association*) concludes a paper thus:

1. Concussion of the spinal cord is no longer a matter of doubt, but may some times occur as the result of various forms of violence (there being nothing peculiar in the application of the force to the body), as the result of derailment or collision of railroad trains.

2. The pathological changes noted in the molecular structure of the cord as the result of shaking, jarring, or so-called concussion of the cord, when attended by paralytic symptoms, may be due to a hæmorrhagic effusion, or be shown *post-mortem*, in softening, and localised, or limited atrophy. In cases due to hæmorrhage, the symptoms may be improved by judicious treatment, and permanent disability prevented.

3. The possibility of pre-existing neurasthenia, or hysteria, or fraud, on the part of a claimant, should be carefully noted in forming a diagnosis in these cases.

4. As the question of permanent disability justifying exemplary damages is frequently raised in claims of the kind alluded to, it should be recollected, in forming a prognosis, that numerous cases are reported of recovery or marked improvement in a few weeks, and one in three years even, after the occurrence of paralysis.

5. No physician should go into court and swear that a plaintiff has had a concussion of the spinal cord, or of its nerves, unless he has proved the disturbance of the normal functions of the cord, as shown in sensation or motion, or both, and that the symptoms appeared *soon* after the injury.

THE PHILOSOPHER'S STONE.

FATAL EXPERIMENTS.

American mail news state that at Cincinnati the doctors have decided that the man Steele, into whose system the Brown-Sequard elixir was injected, has blood-poisoning. He will sue for $5,000 damages. Felden Weir, whose wonderful cure was telegraphed broadcast, is in bed again. Great hard lumps appear where the incision were made, and he is delirious. Dr. Longfellow, who made the first experiments, says he has lost all faith in the elixir. Dr. Langinbeck, the chemist who prepares nine-tenths of all the elixir used in Cincinnati, says it is dangerous if used after an hour, and rank poison if used after two hours. It is reported that the workhouse physicians have experimented indiscriminately, with frightful results. Several fatal experiments are also reported in other places.

THE GERMAN CODE OF ETHICS.

This code should be universal. 1. Every kind of public laudation, whether it proceeds from the physcian himself or from others, and continued advertising in the public papers, is to be reprobated.

2. The designation of "specialist" for puffing purposes is to be reprobated.

3. The public offering of medical assistance gratis, underbidding in concluding contracts in sick societies and the like, offering advantages of any kind to a third person, in practice are inadmissible. The designation "Klinik" and "Poliklinik" (hospital) belong exclusively to institutions which serve the purposes of instruction in connection with universities.

4. The ordering and recommending of secret remedies are inadmissible.

5. Any attempt of any kind, on the part of a physician, to intrude upon the practice of another is dishonorable, especially in the case of one who has acted as a substitute for another, or in consultation. A practitioner must by no means undertake the treatment of the case without the express assent of the previous physician. A specialist called in for a definite part of the treatment must confine himself strictly to that.

6. No physician is at liberty to make disparaging remarks to others about another physician.

The faithful observance of these rules would greatly advance the interests of both profession and people.

IRRESPONSIBLE IMBECILES—WHAT SHALL BE DONE WITH THEM?

The American *Lancet* has a very good article on this subject, from which we give an extract. There is a considerable class of persons to whom belongs fairly the appellation of irresponsible imbeciles. They are capable persons, often very efficient tradesmen, mechanics, business men, until they partake of liquor. Then they lose all control, and become destructive to the well-being of the community. These persons are sent to either insane asylums, jails, or prisons; yet they are neither insane nor criminals in the proper sense of those terms. Society should provide such care for these men that they may not destroy themselves by their excesses, or burden society by their improvidence. We have known many such, in whom it seemed clear that they could be cured if they could have held over them an indeterminable sentence by which, on the first approach of an indulgence in alcohol, they could be placed in a house of refuge, and compelled to work at their employment till such time as it seemed wise to order their release. Some of these cases are reached by religious influences, and reformed. Others are reformed by the agency of inebriate asylums, but the majority are not to be reached in this way. Neither religion, mental reasoning, nor medicine avails ought with them. Under the present arrangement of society they cannot be cared for in any place with any success or satisfaction. One such person we have observed for many years. When not under drink, he was a very capable, useful man, but under drink, he was ugly, abusive to his friends, a thief, etc. His friends exhausted every means of saving him from himself. Finally, they placed him in an inebriate asylum for a long period, till he was pronounced cured. Relapsing from this he was sent to another asylum, and still another. At last, for some theft committed, he was sent to prison. This was repeated several times, he again relapsing as soon as he was discharged. Finally, in despair, he was classed as insane, and sent to an asylum. But he has no place in an asylum for the insane. He should be in a house of detention erected for such as he. On being committed to this, they should be given an opportunity to labour for their own support, while under guardianship. This house of detention would be a genuine work house. Inebriates sent to these work houses under an indeterminate sentence, should be kept till it was apparent that their will-power and mental integrity had been restored. Thus they would be treated upon their own merits, and treated as enemies to themselves and to society.

DR. OLIVER WENDELL HOLMES.

A despatch to the daily press says that Boston's typical son, Oliver Wendell Holmes, celebrated his 80th birthday on August 29th, and despite its informal character the anniversary was a most charming one. He spent the days at his summer home at Beverly Farms. This is a quiet place, liberally embowered in vines and flowers, and most suited to such a festival. The flowers outside the house were nearly equalled by those within, the gifts of friends, which had been sent in the early morning. From nine o'clock throughout the day until nightfall there was a continuous succession of visitors, mainly from the neighbouring north shore estates. The doctor, seated in his comfortable library, with his attractions and alluring furnishings, received all his friends with a bright and pleasant smile and hearty cordiality. His surroundings added much to the charm of the occasion, the room being a genuine old-fashioned study of the kind our grandfathers loved, with a tall, quaint firescreen and open fireplace, with its blazing logs resting on the ancient firedogs, whose polished brass standards reflected the careful housewife. The floor was covered with neat matting and a mammoth rug spread out before the fire. In one corner was a simple rolltop desk, and in another a book-case with the doctor's favourite authors convenient for ready access. The chief charm of the entire interior was its thorough homelikeness. One of the many pleasant features of the day was the coming of the children. In the forenoon the boys and girls of Beverly Farms school, to the number of twenty-six, called in a body, and were given a most cordial reception, the doctor entering heartily into the feelings of his little friends, giving each a warm shake of the hand and his friendly smile. To each he presented a pretty bonbonnière filled with sweets, tied with a bright bit of ribbon, and bearing on its cover a miniature vignette of the poet, with his name beneath. The children of the neighbour-

hood came in the afternoon, and the lovely, shaded roads and bypaths were filled with white clad little maidens going and coming. Besides flowers there were many other pretty souvenirs of the anniversary. Among them was a handsome cup, presented by lady friends of the doctor. It bore the following motto :—

Aug. xxix., mdccclxxxix.

"'Tis the heart's current lends the cup its glow,
Whate'er the fountain whence the draught may flow."
—*The Pledge of Friendship.*—O. W. Holmes.

THE NEXT MEETING PLACE OF THE BRITISH MEDICAL ASSOCIATION.

The place of meeting for 1890 has not yet been fixed on. We should gladly see it held at Torquay. The following extract from the *Torquay Times*, September 14th, indicates the feeling of that town : "A golden opportunity of disseminating a knowledge of the climatic and other advantages of Torquay throughout the length and breadth of the land, upon the continent, and in America, now presents itself; but unless prompt action be taken the chance will be lost, never posssibly to occur again. The British Medical Association, we are informed, are prepared to hold their next year's congress in Torquay if an invitation be given to them. We shall now see if there is sufficient public spirit existing amongst the inhabitants of Torquay to prompt them to avail themselves of such an opportunity of securing the best and most enduring advertisement that could possibly be devised. The annual meeting of the British Medical Association is usually attended by from 1,200 to 1,500 of the leading men of this country, representing a constituency of 15,000 registered practitioners, and by delegates from France, Germany, Italy, and other European countries, as well as from America. It is impossible to overrate the importance to Torquay of the meeting within its borders of such an assemblage of the most learned men of the medical profession, all of whom would return to their respective *clientele* impressed with the validity of the claims which Torquay puts forward to be regarded as one of the healthiest of health resorts in England. The subject was mentioned at a meeting of the sub-committee of the Torquay Town Association on Wednesday evening, and there was an unanimous concurrence of opinion that if the executive of the British Medical Association could be prevailed upon to come to Torquay it would be of incalculable benefit to the town. Unlike agricultural societies, who expect a guarantee fund to be raised in the town they purpose visiting, the Medical Association make no such stipulation, but simply look for a good old-fashioned English welcome. That this would be extended to them if they resolved to accept Torquay's invitation there is not a shadow of doubt, and the hospitality of our leading residents, our beautiful situation on one of the most magnificent bays on the English coast, and the grandeur of the scenery around us, would, no doubt, serve to render the meeting of 1890 memorable in the annals of the Association. The principal requirement would be the provision of rooms adequate to the accommodation of so large a body, and fortunately the town possesses in the Bath Saloons a suite of assembly rooms admirably adapted for the purpose, and which the Local Board, we should imagine, would be only too glad to grant the free use of.

"A DOCTOR FOR TWOPENCE."

The above was the title of an article in one of the London evening papers. It gave the following account of the Finsbury Dispensary :—"The benefits conferred by a well-managed dispensary in a poor and crowded district are often incalculable. Ever since the year 1870 the poor and unfortunate who have attended the valuable institution situated in Brewer-street, Goswell-road, known as the Finsbury Dispensary, have had good reason to be grateful to the founders and all connected with it. When a *News and Post* man visited it on Saturday there was an exceedingly large number of patients who were eagerly waiting there turn to see the doctor. They had gathered together from all parts of the compass—from the parishes of St. Giles Without, Cripplegate, St. Sepulchre Without, St. Andrew's, Holborn, Islington and St. Luke's, Clerkenwell and Pentonville, and the City. What scenes of suffering, privation, self-denial, and anxiety did the anxious crowd represent! All that is required to obtain medical advice and medicine at the Finsbury Dispensary is a recommendation from a governor of the institution, which also provides medical relief at their own homes for such patients as live within the district, but who may be incapable of attending at Brewer-street. There are two physicians, who take charge of those unable to attend the dispensary, besides a surgeon for the surgical cases, and a resident medical officer. The institution is open for two hours daily (Sundays and public holidays excepted), remaining open for such further time as the attendance upon the patients applying within the hours named may require.

"The dispensary is said to be the second oldest in London, and it is certainly one of the most important of its kind. It was founded by George Friend, a benevolent Quaker, 109 years of age, at St. John's Coffee House, St. John's-square, Clerkenwell. It is principally owing to the perseverance with which this excellent charity was conducted by the founders, and the solicitude shown to the sufferers who sought its assistance, that the dispensary has been able to command such a wide field of public sympathy and support. There can be little doubt that Finsbury Dispensary has been established on a solid and enduring basis. Since its foundation over 900,000 men, women, and children, in all parts of the metropolis, have been relieved by its agency. During last year 17,751 new letters were given to patients, there were 37,185 attendances at the institution, whilst 3197 visits were also paid to patients at their own homes. In fact, no application for relief was refused in the hour of need.

"All who knew anything of Finsbury Dispensary knew also Mr. Richard Moreland, senior, who has been the honorary secretary for the past thirty-seven years. Although

now in his eighty-fourth year, he is still busily engaged in its management. His grandfather took a great interest in the charity when it was first founded. Mr. Richard Moreland started, in 1833, the firm of Richard Moreland and Son, engineers, in Old Street, and continued an active member of it until 1883, when he handed over the business to his son, Richard Moreland, junior. He married in 1830, and his two daughters as well as his son took a great interest in the work at the dispensary. When one of them died a short time ago she left a substantial legacy of £100 in aid of the funds. Mr. Moreland has filled the office of chairman both of St. Luke's and St. Mary's, Stoke Newington. He is connected with a number of charitable agencies, holds strong views on hospital reform, and his brain is ever active in devising schemes for the benefit of the dispensary, as well as of his poorer neighbours. Mr. Moreland is a venerable looking gentleman with long white beard and striking features, which stamp him as one who is never weary in well-doing. May he be long spared to continue his good work, and may the operations of the Finsbury Dispensary be every attended with success."

A NEW LITHIA WATER.

There has lately been introduced an entirely new natural mineral water, entitled the St. Marco, and as there are few waters of this class we direct attention to it. It is a sparkling, effervescing water, with a faint saline taste, and, owing to its effervescence, it will be found extremely palatable and useful as a dinner water. It may be taken in the natural state, or may be mixed with wine or whisky in doses of one to three tumblersful per diem. Its use in Italy by some eminent Italian physicians in the hospitals and private practice is attended by the introducers of the water, and favourable reports on its efficacy in gout and rheumatism have been received by us. The water is bottled by means of the syphon system, and in this way the natural gas is retained. The following analysis has been made by Professor Amoroso, representing the saline and mineral constituents present in 1000 grammes of the water of St. Marco.

Sulphate of Calcium	Gr. 1,270465
Sulphate of Magnesium	0,104558
Chloride of Sodium	0,281774
Chloride of Magnesium	0,107797
Carbonate of Calcium	0,274000
Carbonate of Magnesium	0,005131
Carbonate of Potassium	0,017843
Carbonate of Sodium	0,047175
Carbonate of Lithium	0,036768
Carbonate of Iron	0,003625
Carbonate of Manganese	0,004402
Neutral Phosphate of Calcium	0,003658
Silicic Acid	0,018000
Alumina	0,026500
Boric Acid	Sensible traces.
Nitric Acid	Sensible traces.
Total	Gr. 2,201696

We intend testing the efficacy of the water, and then make a further report upon it.

THE OPENING OF THE SCHOOLS.

The great work of medical education commences to-day —viz., the opening of the medical schools. We have published in our advertising columns the prospectuses of some of the best schools; and we may briefly allude to their respective advantages. No inaugural address was given at the London Hospital, but a dinner of the old students, under the presidency of Dr. Langdon Down, took its place. The advantages of the London Hospital are well known. Its locality and close proximity to the docks insure but a too plentiful supply of surgical cases. The fees are very reasonable, and lodgings can be obtained in healthy neighbourhoods also at reasonable charges. Students are taken by a number of medical men living close to the hospital, and dinner and refreshments are provided within the precincts of the college. Full particulars may be obtained from the warden.—At St. Mary's the session will be opened by Dr. Maguire. This hospital, owing to the energy of the Professors, has taken a first place in the list of educational institutes. It is admirably situated, and its fees are also reasonable. Residential chambers and registered lodgings can be easily secured in the neighbourhood of the college.—At St. George's the introductory address will be given by Dr. T. Clifford Allbutt.—St. Bartholomew's will open without an introductory address.—Dr. P. S. Abraham, so well known for his researches on leprosy, will open the Westminster Medical School, and Mr. Godlee will perform a similar service at University College.—We have so recently alluded to the Leeds School of Medicine as a place of study that we need not repeat our enconiums upon it. In our next issue we shall be able to publish some of the introductory addresses.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. Kesteven, M.D.

On the Use of Eucalyptus in Headache. By Morris J. Lewis, M.D. (*The Medical News*, Philadelphia, July, 1889).—The administration of doses of oil of eucalyptus three or four times a day has been found beneficial in headaches of various types when other means have failed. Eight cases are related by Dr. Lewis, who states that the remedy had been employed with satisfactory results by Dr. Weir-Mitchell and Dr. Linkler, at the Infirmary. The drug appears to be most useful in headaches of the congestive type, especially when given at the onset of the attack. Further trials are contemplated by Dr. Lewis.

Cholelithiasis with Obstruction of Cystic Duct; Successful Cholelithotomy. By Edward Willis Way, M.B. (Edin.), Lecturer on Obstetrics and Gynæcology in the University of Adelaide (*Australasian Medical Gazette*, June, 1889).—Mrs. B——, æt. twenty-two, consulted me early in 1888, for a tumour in the right hypochondriac region. The history did not suggest any previous attack of biliary colic or the occurrence of an obstruction in either the common or the cystic duct, and as the tumour appeared to be cystic in character, I thought that it would most likely prove to be a hydatid of the liver. My patient was admitted into the North Adelaide Private Hospital, where, on February 8th, with Dr. Lendon's assistance (Dr. Aitken also being present), I performed an exploratory abdominal section. On reaching the tumour, an aspirator needle was inserted, and some clear fluid drawn off, confirming, as I thought, my diagnosis. The cyst was then secured with silk ligatures, drawn out of the wound, and incised, whereupon a considerable quantity of fluid escaped, together with a large number of

small gall stones. The finger was then introduced into the gall-bladder, and many more small calculi removed, together with one solitary large concretion. It was next discovered that the cystic duct was occluded by a stone of considerable size, which was firmly impacted. This was, with much difficulty, broken up into fragments and scooped out of the duct, which was inverted as far as possible into the gall-bladder for that purpose, and when this had been done the bile found its way out freely. The wound of the gall-bladder was then stitched to the abdominal parietes with silk in the usual manner. The subsequent progress of the case was satisfactory, and there was no constitutional disturbance. Bile-stained fluid was, however, discharged very copiously for some time, and the sinus did not close until some weeks had elapsed. The patient is now in perfect health.

On the Use of Borate of Ammonia in Pulmonary Disease (*L'Union Medicale*, August 8th, 1889).—This medicine is very highly recommended by Dr. Lashkewich for administration in phthisis, especially in the early stages of the disease; he has known it rapidly reduce expectoration and fever. The dose has been thirty centigrammes (1 centigramme = between $\frac{1}{8}$th and $\frac{1}{7}$th gr. English). Codeine or other sedatives may advantageously be combined with the borate of ammonia.

Comparative Results in Pleurisy with reference to the Development of Phthisis Pulmonalis. By Vincent Y. Bowditch, M.D. (*The Medical News*, Philadelphia, July, 1889).—The results of the investigations by Dr. Bowditch are thus stated:—"1. That whether we can prove absolutely, by such statistics, that all pleurisies are tubercular or not, yet a large percentage of those patients who were afflicted with pleurisy, often in apparently chronic forms, recover their health, and have never had any recurrence of the original trouble, nor development of subsequent pulmonary or otherwise tubercular trouble." "2. That while undoubtedly there are many cases in which an attack of pleurisy is followed within a comparatively short space of time by pulmonary trouble, and, therefore, special care should be taken during convalescence, yet we are not justified in giving such gloomy prognoses as we should be inclined by accepting the extreme views held by Landouz and his followers."

Case of Recurrent Laryngeal Tumour. By W. F. Quaife, M.B. (*Australasian Medical Gazette*, June, 1889).—M. H——, a healthy man, of middle age, had been troubled for twelve months with a growth in his throat, which impeded more or less his speech, respiration, and ability to swallow. At times it broke away, but always recurred, at each the symptoms became urgent. A large trilobate fibrous tumour was situated above the true cords, and nearly filling up the glottis. This was removed by means of a laryngeal ecraseur. A week afterwards another tumour was found, pressing upwards from beneath the cords, attached to the right cord near the angle of the glottis. Though it did not interfere with the breathing, it prevented the cords coming together. It was removed by the cord snare, but with a little more difficulty than the other on account of the protection afforded to it by the cords. The seat of growth was destroyed by crystals of chromic acid, delicately applied on a silver probe, which was found more efficacious than the electric cautery. There was some paresis, which interfered with vocalisation, but which gradually passed away under the use of strong silver solution, and after a little faradisation the voice became perfectly useful; it recovered the whole of its natural timbre, though not to the full of its natural strength. A large quantity of cocaine was used, partly in spray, partly with brushes and cotton holders.

Cryptopinum (*Der Fortschritt*, July 20th, 1889).—This substance is an alkaloid, sometimes met with in opium, and belonging to the codeine series of alkaloids. As with codeine, narcotine, thebaine, and papaverin, poisonous narcotic symptoms are induced by it; it exerts also a controlling influence over tetanic symptoms. Cryptopinum (C_{21} H_{23} NO_5) is a strong base, neutralising mineral acids, and is readily soluble in boiling alcohol, from which it crystallizes out in small nodules.

Rhus Aromaticus in Incontinence of Urine (*Der Fortschritt*, July, 1889).—The juice, or a tincture of the leaves of this plant, have been administered with good effect by M. Eloy, in doses of from twenty to twenty-five drops.

Carissa Xilopieron—American Bitter Cup (*Der Fortschritt*, 20th July, 1889).—The tree from which this article is made is of the American order—*Apocyneæ*. Its leaves are opposite, the flowers are umbel. Cups are turned from the wood, which, when filled with water or wine, after a time, impart thereto a bitter flavour. This liquid is administered as a febrifuge, stomachic, and vermifuge. In the Mauritius, where the plant is known by the name of "bitter-wood," it is used as a tonic, diuretic, and febrifuge. It is also prepared as an alcoholic mixture, as well as an aqueous infusion, and is administered in intermittent fever as supplementary to quinine.

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

Les Tics et les Ticeurs. By Dr. Charcot.—From the great excitability of our southern neighbours, the instable equilibrium, as it were, of their emotional centres, we should expect to find amongst them not only examples of the most extravagant forms of madness, but extreme oddity in speech and gesture associated with apparent sanity. And it would seem, too, that French alienists have an especial zest in discovering and recording those sad cases in which the pitiable and the grotesque are commingled so strangely, and arranging and sub-dividing the species, much as botanists do the genus *Rubus*, to the confusion and dismay of all less enthusiastic observers.

In an inaugural lecture in the course on "Nervous Diseases," Prof. Charcot enumerates a number of these, and calls them examples of tic—a word which we use only in the compound tic-doloreux, and necessarily associate with pain—that is, clonic convulsion; a form of intermittent palsy affecting usually single groups of muscles, and due to periodic changes in the brain, minute explosions of incöordinated energy at more or less regular intervals.

He showed one patient who, about three or four times a minute, brushed his right hand across his face as if to remove some troublesome insect, sometimes striking his face involuntarily with considerable force; and due, apparently, to a source of irritation at the centres of the fifth and sixth cervical nerves.

This form is seen under many modifications—jerking movements of the head, of the eyes, of the hands and the feet—and they may be so slight as to be a mere trick or habit, or pass into graver developments. Probably the worst are those in which the sudden movement is accompanied by an involuntary cry which may take the form of articulate words, for the reason that these words are often of an indecent kind. This is called coprolalia (*κόπριος, filthy*), which we sometimes find associated with aphasia. The sufferers are frequently ladies, well bred, and highly educated, and their distress in being irresistibly compelled to utter words and phrases of which they acutely realise the shocking impropriety, and yet which they cannot suppress, is most painful to witness. The impulse itself strongly resembles epilepsy in the suddenness and domination of the attack; and if they do not give way to it, but utter the dreaded words under their breath, there is a feeling of acute restlessness, of pent-up passion, which may relieve itself in acts of maniacal fury. Prof. Charcot gives many cases, with revolting verbal details he seems to revel in enumerating, but which we may well pass by. One singularity is that all these cases are examples of heredity, the only exception was that of a girl whose mother was housekeeper to a "ticeur" of pronounced type during her pregnancy.

Another form is that of the "doubter," who examines a letter a dozen times before posting it—cannot make up his mind to post it unless he tears it out of the envelope to read every word he already knows by heart, and then firmly believes he has forgotten the stamp. One man cannot see a razor without a passionate impulse to cut someone's throat with it. Another cannot travel by railway without a restless desire to wrench the door open and throw himself on to the line. Then there is the *misophobe*, who cannot touch certain objects, such as a piece of copper, without the idea of irremovable defilement, who washes his hands a dozen times and still cannot rid himself of it—yet perfectly sane in all other respects.

There are others who suffer from *agarophobia*, of which he gives no example, and *claustrsphobia* (*κλανστικὸς, complaining*). An extraordinary theory of one of his patients was that inanimate bodies were always fretting when they were still! that chairs and tables, bottles and vases, were perfectly miserable unless they could shift their position, and, as they could not do it themselves, she was incessantly moving them about the room, and yet they were not happy, for their nights were as still as her own were restless!

Some years ago I treated a case resembling Charcot's tic, happily of only short duration; a middle-aged primipera had been attended in my absence by a *locum tenens*, and had had severe *post-partum* hæmorrhage. On my return I found her suffering from puerperal mania, her mental balance had been upset by the resulting anæmia; she had refused all food, and sat up in bed incessantly waving her right arm and shouting "From the devil and the doctor, good Lord deliver us. Amen!" And this had been going on for twenty-four hours. With some difficulty I got her under the influence of chloroform, and, then, just as consciousness was returning, induced her to swallow the contents of a tumbler containing two raw eggs, a tablespoonful of brandy, and—this was before the invention of the Pravaz syringe—a full dose of morphia. She was asleep in a few minutes, and when she awoke some hours later, was perfectly sane. She told me afterwards, with much shame and contrition, that she was fully aware of the extremely uncomplimen-

tary nature of the allusion to myself, but could not help shouting the words to relieve a feeling of suffocation which oppressed her.

One of the Parisian cases was that of a man who had an irresistible desire to know and record the name of every man he met; he took infinite pains to secure the purposeless information, and could never trust the list out of his sight.

Such are a few of the endless vagaries of the insane—of tic and the sufferers thereof.

III.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

Hot Water Injections in Epithelioma of the Neck of the Womb (*Gazette de Gynécologie*).—The effects of hot water injections in cancer of the uterus forms the subject of a paper by Dr. Tornery: no radical cure can be expected, but some of the most distressing symptoms are relieved. The vagina may be thoroughly disinfected by syringing twice daily, with water at a temperature of 39° or 40° C., for about half an hour. The ichorous discharge is much lessened thereby; hæmorrhages are much diminished, and the general condition of the patient is improved. In the majority of cases pain is so far diminished that hypodermic injections of morphia may be dispensed with. In some instances, epitheliomatous masses contract, harden; their bulk is diminished, and the invasion of the disease appears to be arrested. Unfortunately, it is difficult to follow up such cases for any lengthened period, for as soon as relief is afforded they leave the hospital. In one case the improvement continued for four months. It is true that a fatal result is only retarded, but it is a great point gained if suffering can be relieved to any considerable extent.

Horny Excrescences, and their Transformation into Malignant Neoplasms at the Base (*Journal de Médicine de Paris*).—According to Dr. Paul Gilles, it happens occasionally, although rarely, that horny growths are developed on various parts of the human body. These excrescences occur in both sexes, and at all ages, but especially in the aged. The horns may grow from either skin or mucous membrane, but chiefly affect the head. They may be single or multiple, simple or compound; sometimes several will arise from the same base. Their size varies from that of a pin head to that of a ram's horn; they gradually contract as they grow from the base to the summit. They are usually pointed at the extremity, although sometimes bulbed. The pain caused is very trifling, and only occurs when there is laceration or inflammation at the base. These growths are seldom curable; if removed, they are either reproduced, or the base becomes a malignant neoplasm. The operative treatment consists in a double incision circumscribing the base of the horn, the forcible wrenching out of the horn, and energetic cauterisation of the wound.

Therapeutic Uses of Salicylate of Mercury (*Journal de Médicine de Paris*).—Dr. Malècot prescribes this remedy simultaneously with santal oil for blenorrhagia, and has been struck with the absence of all pain even when the injections have been repeated at short intervals. It seems to be an urethral antiseptic, possessing all the efficacy of the salts of mercury hitherto employed, without causing pain; far more powerful than boric acid, it is quite as innocuous. Dr. Silva Aranjo claims—(1) That salicylate of mercury is easily tolerated by the stomach; it causes no gastralgia, enteralgia, colic, or diarrhœa, which so commonly result from other mercurial preparations. (2) Salicylate of mercury does not produce salivation. (3) Administered internally, salicylate of mercury is more rapid in its action than any other salt hitherto used. Dr. Riche, in a communication to the Academy of Medicine, states that there are four sorts of salicylate of mercury. One sort contains 42 per cent. of metal, and another contains 59 per cent., and these two kinds should not be prescribed indifferently, their action being dissimilar.

Treatment of Hydarthrosis of the Knee (*Annales d'Orthopedie*).—Dr. Georges Berne has adopted a plan of treatment of synovial effusion, in those cases which resist the usual methods of treatment, which has proved very successful. The treatment consists of a forcible rupturing of the synovial sac, which he terms *éclatement*, and which is followed by massage. The knee is semiflexed, when it may be noticed that the fluctuation is more marked above and inside the knee; the fluid is circumscribed, and the tumour formed is rendered tense by pressure with the hand; firm pressure with the thumb, or percussion with the edge of the closed hand, will produce an indentation, followed by a diminution of fluid effused. There can be no doubt but that a rupture or fissure of the synovial sac takes place at its weakest point—perhaps at the level of its insertion; the fluid permeates in the neighbourhood of the lymphatics and veins, which are so abundant in the cellular tissue surrounding the joint. The rupture is easily effected in ecent cases, as the membrane has not become thickened, and possibly the effusion is more liquid. After the *éclatement*, massage must be persevered with, directed from the knee towards the groin, the form of massage being strong and deep centripetal pressures. The method is as free from danger as it is simple in execution.

Society of Medical Missions (*L'Union Médicale*).—A society has been formed in Paris, the object of which is to establish dispensaries and hospital schools in Africa and in the east, in order to counterbalance the power of the English and German Medical Missionary Societies, which have been instituted to resist the influence of French medicine, formerly predominant.

Pharmacology of the Iodides of Potassium and Sodium (*Gazette Hebdomadaire de Montpellier*).—Dr. Gay, who has been studying this question, has formed the following conclusions: (1) The iodides of potassium and sodium of commerce are generally impure: the druggist should be very careful to examine these drugs, and to reject all containing less than 95 per cent. of iodide, or which contain iodate. (2) The iodide of sodium has always a weaker percentage, from 80 to 85 per cent.; the dried iodide is not purer than the crystallised; medical men should allow for these facts in their prescriptions. This salt, which is very hygrometric and difficult of manufacture, would perhaps be better abandoned. (3) The iodide of potassium may be obtained pure at a reasonable price, and its preparation is one which pharmaceutists might undertake for themselves. The preference given to iodide of sodium by some physicians is not justifiable.

IV.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

Bacteriology of Puerperal Fever.—In the *Vratch*, No. 30, 1889, p. 659, Dr. Matvëi M. Mïronoff, of Kharkov, publishes a preliminary note on his bacterioscopic researches (in Professor V. P. Kryloff's laboratory), undertaken for studying the etiology of puerperal fever of milder forms. The principal results of the author's investigations may be summarised as follows:

1. In cases of puerperal endometritis, the uterine and vaginal discharges contain a streptococcus which is present in pure, or almost pure, cultivation.

2. In cases of puerperal pelvic inflammations associated with exudation, the discharges contain either the streptococcus with a staphylococcus, or the staphylococcus alone.

3. In such cases where the womb or vagina contain some decomposing dead tissues (retained placenta, vesicular mola, etc.), the extremely fœtid uterine and vaginal dscharges prove to teem with peculiar rod-shaped microbes, which occur either alone or are accompanied by scanty non-pathogenic bacteria of various species.

4. The puerperal streptococcus is quite identical with Fehleisen's streptococcus of erysipelas. [There is no difference whatever in their morphological properties and biological behaviour. Besides, the inoculation of the former coccus to rabbits and man gives rise to a distinct erysipelatoid attack.]

5. The puerperal bacilli are fairly thick and short (almost ovoid). They are, as a rule, arranged in pairs, which form irregular small-sized heaps. They grow well both on jelly and agar, but somewhat less so (especially in the absence of air) in broth. On gelatine they form large circular colonies of a yellowish-orange colour, without liquefying the medium. When cultivated in test-tubes, the microbes develop in from four to six days a characteristic offensive putrescent odour, closely resembling that of the puerperal discharges from which they have been obtained. When inoculated to animals they do not produce any local changes, but give rise to fever, the febrile elevation oscillating between a few tenths and 2° C., and lasting from four to eight days, according to the quantity injected. [The results of the experiments most closely tally with the clinical facts observed in the cases indicated *Sub* 3: in all the patients examined by Dr. Mïronoff, only mild fever—not higher than 39.5° C.—but no local changes were present.]

6. Hence, mild puerperal affections may be subdivided into two large groups, one of which embraces *specific* cases caused by the penetration into the patient's genital tracts of certain pathogenic microbes (streptococcus or staphylococcus). The other group consists of *non-specific* affections determined by the absorption into the patient's circulation of certain ptomaines that are elaborated by the putrefaction bacilli described above, in the presence of putrescent substances (dead particles of animal tissues).

On Umbilical and Uterine Murmurs.—Having carried out two series of careful observations in Professor Breisky's clinic, Dr. L. Ettinger, of Zurich (*Zurich Inaugural Dissertation*, 1888), arrived at the following conclusions:

1. *Umbilical Murmurs.*—(*a*) In an overwhelming majority of cases

the umbilical murmurs heard through the maternal abdominal wall arise in the umbilical cord itself. (*b*) They are caused by some compression of the umbilical vessels, produced either by twisting of the funis round some parts of the fœtus, or, less frequently, by the formation of genuine umbilical knots, or by the cord being too short. (*c*) In exceptional cases, however, the *bruits* originate in the fœtus's heart. (*d*) At all events, the term, "umbilical murmurs," is quite correct, and should not be replaced by any other denominations.

2. *Uterine Murmurs* (100 cases).—(*a*) They are present in a vast majority of cases of normal labour (in 88 out of 100). (*b*) Most frequently (in 63 out of 88) they are heard on the left side of the abdomen, but sometimes (in 12) on the right, or on both sides (in 10), and now and then (in 3) all over the patient's abdomen. (*c*) The cause of the murmurs most frequently occurring on the left side should be sought in the physiological displacement and rotation of the womb towards the right side. The supposition is supported by the fact that in cases of right-sided murmurs the uterus proves to deviate from the said physiological situation. (*d*) As a rule (in 60 out of 88 cases), the uterine *bruits* heard during labour can be still detected for a certain period after the parturition. (*e*) In multiparæ they invariably persist by far longer than in primiparæ.

Medical Poisoning by Male Fern.—In the excellent Polish monthly, *Nowiny Lekarskie*, May, 1889, p. 225, Dr. Alkiewicz (pron. Alkevitch), of Pobiedzisk, details a very instructive instance of severe toxic effects produced by the internal administration of ethereal extract of male fern in a rather liberal dose (on account of tape-worms). The patient, an otherwise quite healthy lady, æt. thirty, who, on a former similar occasion, had been given ten grammes of the remedy without any bad consequences, took this time, at 8 a.m., twenty grammes of the extract, dissolved in tincture of cinnamon. During the day she had several fairly profuse stools, while about 6 p.m. she suddenly fell into a deep and prolonged swoon. When seen by the author shortly after her coming round, she was in grave collapse, with hardly perceptible pulse, accompanied by incessant nausea, retchings, vomiting, tremor of hands, and general restlessness. In about two hours, under the influence of an assiduous administration of champagne, ice, and black coffee infusion, the alarming symptoms began to gradually subside, and the utterly exhausted lady fell asleep. On the next day she was still weak, while on the third there developed an intense jaundice, which lasted for several days, to disappear spontaneously. Pointing to his case, Dr. Alkiewicz strongly warns against using large doses of the extract recently recommended by Dr. J. O. De Man, of Middelburg (*Therapeutische Monatshefte*, January, 1889), who advises to give from 17.5 to 32 grammes to women, and from 10 to 15 to children. The maximal dose for a woman, however strong and healthy she might appear, should not surpass 15 grammes, and for a man 17.5. The circumstance that Dr. De Man did never happen to meet with any toxic effects from administering 25-gramme doses may be explained simply by his mode of using the remedy. He prescribes it invariably in capsules, some of which probably pass through his patient's digestive tracts quite intact.

[We should say that even such large (and proportionately expensive) doses, as suggested by Dr. Alkiewicz, are altogether superfluous. In the *Allgemeine Medic. Central-Zeitung*, No. 103, 1883, Professor Aufrecht, of Magdeburg, recommends an excellent plan for expelling tape-worms by means of male fern. Given a patient above eighteen years of age, order him to swallow a good purgative dose of castor-oil about the night-fall, and let him abstain subsequently from any food, except, perhaps, a small-sized piece of meat, with some white bread. On the next morning, give him twelve gelatine capsules (best of all, operculated), containing each about six decigrammes of ethereal extract of male fern (therefore, not more than *seven* grammes of the extract, in all), to take them with his coffee. About half an hour after the breakfast, the patient should eat a slice of white bread, and the "cure" is complete. In one or two hours, certainly not later than in three, the patient will demonstrate to you triumphantly his abominable tænia with head and all (which head may be occasionally sold for five francs to collectors and makers of biological preparations—so that a happy "host," or a proprietor of a tape-worm farm embracing five or six parasites, might make a fairly profitable bit of "business"). As far as the reporter's experience is concerned, he never yet failed to expel the worms after Professor Aufrecht's simple, rapid, and relatively cheap plan, and that even in such cases which had been previously for years vainly treated by all possible "patented" and unpatented remedies.—*Reporter.*]

Epistaxis from Atropia.—In the Kïëv ophthalmological bi-monthly, *Vestnik Oftalmologïï*, May and June, 1889, p. 264, Dr. Mikhaïl I. Reich, of Tiflis, publishes a remarkable case of quite unusual toxic effects of atropia. A rather delicate, but generally healthy pupil of a local college, æt. seventeen, with a good (non-hæmophylic) family history, applied on account of progressive myopia. The ophthalmoscope revealed slight staphyloma posticum and posterior choroiditis. The treatment (absolute physiological rest of the eyes, etc.) included the instillation of an atropia solution (1 to 120), two drops into each eye twice a day. On each occasion the instillation of the drops was followed in about five or ten minutes by a profuse nasal bleeding of fifteen minutes' duration. On examination on the third day, the patient was found rather pale, his pupils dilated, but such symptoms as dryness of the throat or giddiness were absent. The instillation being discontinued for two days, the bleeding at once ceased to appear; but as soon as the administration was resumed the patient again began to bleed, and that still more profusely than previously. The same phenomenon, though in a somewhat lesser degree, was also produced by a correspondingly strong solution of sulphate of duboisin.

V.—OBSTETRICS AND DISEASES OF WOMEN.

THE MEDALS OF BENJAMIN RUSH, OBSTETRICIAN.[1]

By Horatio R. Storer, M.D.,

of Newport, R. I.

Recently, during researches relative to a paper upon the medals, jetons and tokens illustrative of the science of medicine, at present appearing in the *American Journal of Numismatics*, I learned of a gold medal conferred by the Society of Medicine of Caen, France, upon the late Dr. Jean Charles Faget, of New Orleans, a graduate of the University of Paris, Chevalier of the Legion of Honour, and distinguished as an author in various departments of medicine.[2] With the impressions of this medal that have been kindly sent me by Dr. Faget's family, I have received copies of a portion of his works. Among them is an interesting brochure, published at Paris by the Baillières, entitled, "L'Art d'apaiser les Douleurs de L'Enfantement" (The Means of Assuaging the Agony of Parturition).

THE CLAIM OF RUSH TO THE TITLE OF OBSTETRICIAN.

In this memoir, Dr. Faget quotes a striking statement by the most eminent, perhaps, of American physicians, Dr. Benjamin Rush, for many years professor of the institutes and practice of medicine and of clinical practice in the University of Pennsylvania. In discussing the symptoms of labour, and as if directly anticipating and answering in advance the objections that were to be urged half a century later in his own city, by the celebrated Dr. Charles D. Meigs, Dr. Rush had said: "By some divines these symptoms, and particularly pain, have been considered as a standing and unchangeable punishment of the original disobedience of woman, and, by some physicians, as indispensably necessary to enable the uterus to relieve itself of its burden. By contemplating the numerous instances in which it has pleased God to bless the labours and ingenuity of man, in lessening or destroying the effects of the curse inflicted upon the earth, and by attending to the histories of the total exemption from pain in child-bearing that are recorded of the women in the Brazils, Calabria, and some parts of Africa, and of the small degrees of it which are felt by the Turkish women, who reduce their systems by frequent draughts of sweet oil during pregnancy, I was induced to believe pain does not accompany child-bearing by an immutable decree of Heaven." And again: "I was encouraged (in this) by having known delivery to take place, in one instance, during a paroxysm of epilepsy, and in another during a fit of drunkenness; in both of which there was neither consciousness nor recollection of pain."[3]

The notable passage referred to above, as reproduced by Dr. Faget in his French monograph, is the following: "I have expressed a hope in another place that a medicine would be discovered that should suspend sensibility altogether, and leave irritability, or the power of motion, unimpaired, and thereby destroy labour pains altogether."[4]

The "another place" to which Rush here makes allusion is a letter dated May 12th, 1802, to Dr. Edward Miller, entitled "On the means of lessening the pains and dangers of child-bearing, and of preventing its consequent diseases." In this, when speaking of cases "where the absence of throes and the slow progress of delivery indicate a deficiency of muscular irritability in the fibres of the uterus," Dr. Rush shows the advantage of opium, and goes on to say, "I think I have seen the

[1] Read at the Fortieth Annual Meeting of the American Medical Association, held at Newport, R. I., June, 1889.

[2] The biography of this gentleman will be found in our Permanent Secretary, William B. Atkinson's work, "The Physicians and Surgeons of the United States," Philadelphia, 1878, p. 44.

[3] "Medical Inquiries and Observations," third edition, 1789—1811, iv., pp. 373, 374, 376.

[4] Ibid., p. 376.

happiest effects from that excellent medicine in such cases, in destroying useless pains and shortening the progress of labour. How far a medicine (if such can be found) so powerful as wholly to suspend the sensibilities of the nerves, without impairing their irritability, might succeed in destroying pain altogether, I know not."[5]

In this letter, aside from the special point that I make in the present paper, Dr. Rush demonstrates, throughout, that he was a skilful obstetrician. In its very title, he closely associates the pains of labour with its dangers; he announces that they can both be lessened; he recognises that they are the potent cause of subsequent disease; and he teaches its prevention. Here, as in the passage quoted by Dr. Faget, Dr. Rush foreshadows the great discovery which has taken from parturition its anguish, without interfering with its progressive natural action, and has greatly lessened its perils to mother and child.

Upon referring to the work of Walter Channing, of Boston—a native, by the way, of Newport, and upon this occasion to be spoken of with especial honour—to whom, as also to Sir James Y. Simpson, as the first physician to induce artificial anæsthesia in childbirth, Dr. Faget gives due credit, I find this comment: "It is grateful to recur to the opinions of our distinguished countryman (Dr. Rush) on a point which he approached with sentiments of the profoundest reverence, on account of the authority on which it is supposed to rest; whilst he successfully controverted the popular inference—namely, the penal character, involving a physical necessity of pain in labour." He had conceived a "hope. Was it not prophecy? Had it not so much truth as a basis, that the great discovery of our own day seems to be the revelation of that truth? His doctrines were rather inductions, or the generalisations of facts, than theories." He "expresses a 'hope' of the discovery of a remedy of (obstetric) pain," but he also states "the reasonableness, the moral evidence, of that hope, so that it becomes faith."[6]

It will be noticed that Rush distinctly contemplated the removal of sensibility alone, and the retention of uterine activity. His views, therefore, were precisely those of the best authorities of the present day, regarding the conduct of natural labour. He was in general sympathy with Sydenham, whose works he edited, and for whom he even named his country seat, and it is not unlikely that through studying upon this account the more closely the effects in labour of opium, his opinion of which I have already quoted—and that preparation of it which is known as Sydenham's to the present day—he came to perceive the end that was to be searched for in childbirth beyond merely soothing its pain—namely, the preservation unimpaired of uterine contractility and expulsive power. Dr. Rush, besides, was far in advance of his time in recognising the evil effects of alcohol upon the human system, both in health and disease. One of the cases which he reports was of painless labour "during a fit of drunkenness." This would have added to his desire to produce the effect, temporary anodynia, while avoiding its disreputable and injurious cause.[7]

That Rush had anticipated by nearly fifty years the magnificent idea which was to result in freeing woman from the burden of incalculable suffering that had been borne by her through the ages, seems to have been recognised by no one besides Channing, save Faget and one single other.

In 1876 Dr. Gaillard Thomas both noticed and quoted Rush's aspiration, yet he seems to have mentioned it as but an incident in the course of his generous tribute to Simpson, the more striking from appearing in the very same book wherein was made the direct implication, of course an accidental one, that the anæsthetic property of chloroform was an English and not a Scotch discovery.[8] Dr. Thomas, in speaking of the introduction of anæsthesia into the lying-in chamber as an era in the history of obstetrics, thus declares: "It is somewhat singular that after the discovery of anæsthesia in this country, after the prediction, long before its discovery, by one of America's greatest physicians, that 'a medicine would be discovered that should suspend sensibility altogether, and leave irritability, or the power of motion, unimpaired, and thereby destroy labour pains altogether'; after it had been employed here in hundreds of cases for surgical operations, this link of the chain should have been forged by a European. Yet such was the case, and far be it from any American to begrudge him one atom of the glory which he deserves, or to endeavour to dim its lustre by 'faint praise.'"[9]

We do not find Rush's prophecy where of all places it would have most naturally been looked for, in the bitter letters of the elder Bigelow of Boston, in 1869 and 1870, to Sir James Simpson, nor in the minute statement, six years later, by his son,[10] although both of these gentlemen were colleagues of Channing in the Medical School of Harvard University.

Channing seems to have been the first to discover the great suggestion made by Rush. His reference to it in 1848 was apparently perceived by none till Thomas in 1876—thence by none till Faget in 1880, who again was unaware of the allusion to it that Thomas had made. From 1880 till now there exists the same utter silence as before.

I make this statement with hesitation, for the fact seems incredible. Several friends, however, have assisted me during the present investigation. From the treasurer of the Rush Monument Association, and ex-president of our own, Dr. J. M. Toner, the person of all now living probably most familiar with the life of this signer of the Declaration of Independence, I have received for examination many biographies of Rush,[11] from his own very extensive collection of medical works now in the Congressional Library, and he has besides aided me in the search itself. Dr. Toner writes me as follows: "I have nowhere found allusion to the wonderful hope expressed by Dr. Rush." Dr. Paul F. Mundé, of New York, who as editor for so many years of the *American Journal of Obstetrics*, aside from his own special researches in this direction, has had reason to keep informed of all that has been published upon midwifery, reports a similar result. "I do not recollect," he says, "ever seeing the name of Dr. Rush in this connection. Certainly he had a remarkable gift of prophecy!" Dr. James R. Chadwick, of Boston, the founder of the great medical library at Boston, and a most faithful observer of all that occurs in obstetrics, writes me to the same effect. "The prophecy of Dr. Rush was new to me. I have not seen it alluded to by any writer. It is of very great interest." And Dr. Gaillard Thomas, whom alone besides Channing and Faget I had found alluding to Rush in this connection, informs me that he recollects no one who has appreciated Rush's prophecy save Channing.[12]

You and I would, I think, have felt aggrieved had it been intimated that we were unfamiliar with the works of Rush and of Channing, and the chapter by Thomas, but for myself I am willing to acknowledge that having eyes I saw not, neither did I understand. With all my interest in the general subject, the full significance of Rush's true position towards this question, has not struck me until now." A student at Harvard University during the first use of sulphuric ether at the Massachusetts General Hospital, and though still an undergraduate a witness of many of the earlier operations during which ether was there employed—a friend of Dr. Charles T. Jackson, whose gold medal from the Swedish Government commemorates that, however he would have neglected of himself to communicate the discovery to the world, the idea of employing sulphuric ether as an anæsthetic was due to him, a pupil of Channing, and of Simpson, whose great Montyon gold medal from the Institute of France was not given merely for his other transcendent merits, but because by annulling the pains of childbirth, he thereby removed the primal curse, and

[5] "Medical Repository," vi., 1803, p. 24.

[6] "A Treatise on Etherisation in Childbirth." Boston, 1840, p. 150.

[7] "An Inquiry into the Effects of Ardent Spirits upon the Human Body and Mind," 1785.

[8] "A Century of American Medicine, 1776-1876," Phila., 1876, p. 80.

[9] Ibid., p. 262.

[10] H. J. Bigelow. "A History of the Discovery of Modern Anæsthesia." "A Century of American Medicine," Philadelphia, 1876, pp. 73-112.

[11] (*a*) Sanderson's "Biography of the Signers of the Declaration of Independence—Rush." Philadelphia, 1823, Vol. iv., pp. 249-288. (*b*) "Report of the Committee on the Erection of a Monument to Dr. Benjamin Rush." *Journal of the American Medical Association*, 1885. (*c*) Dr. Thomas D. Mitchell. "The Character of Rush." Introductory Lecture at Philadelphia College of Medicine, 1848. (*d*) Dr. David Hosack. "An Introductory Discourse, etc., and a Tribute to the Memory of the late Dr. Benjamin Rush. New York, 1813. (*e*) Dr. Lettsom. "Recollections of Dr. Rush." London, 1815. (*f*) C. "A Tribute to the Memory of Dr. Rush." The Port Folio (Phil.), October, 1813. (*g*) Dr. David Ramsay. "An Eulogium upon Benjamin Rush, M.D." Philadelphia, 1813. (*h*) "Benjamin Rush, M.D." National Portrait Gallery of Distinguished Americans, Vol. iii., Phila., 1836, pp. 52-61. (*i*) "Sketch of the Life and Character of the late Benjamin Cush, M.D., LL.D." *American Med. and Phil. Register* (New York), July 1813, pp. 1-16. (*j*) "Elegiac Poem, on the Death of Dr. Benjamin Rush." Phila., 1813. (*k*) Dr. G. K. Johnson. "Memoir of Dr. Benjamin Rush." 1877. Among other memoirs of Rush, besides the usual Cyclopædic ones that I have consulted, have been that contained in Thacker's American Medical Biography (Boston, 1828), and the admirable "Benjamin Rush and American Psychiatry," by Dr. C. K. Mills, of Philadelphia (*Medico-Legal Journal*, December, 1886).

[12] I had not recognised Rush's place, or Faget's either, among obstetricians, when I prepared my paper upon the medals, jetons, and tokens illustrative of obstetrics and gynæcology (*New England Medical Monthly*, November and December, 1886).

lessened in almost equal degree both infantile and fœtal mortality, and by employing chloroform as the agent was better able than with ether to momentarily suspend sensibility, in Rush's language without impairing uterine irritability—and having myself twenty-six years ago, in 1863, contributed by an essay upon the subject[13] that Thomas in the "Century of American Medicine," already referred to, was kind enough to call "of considerable value," [14] to the work these preëminent philanthropists had commenced in reference to the general employment, even in natural labour, of artificially induced anæsthesia, I have yet failed, till the present moment, to properly recognize Rush in one of the most beneficent of the many labours of which he was engaged. His work as a sanitarian had been duly appreciated.[15] He had published papers upon diet,[16] climate,[17] military hygiene,[18] leprosy,[19] hydrophobia,[20] and yellow fever,[21] and for his great services during the epidemic of the latter in 1793, he had received unusual honours; among them gold medals from the King of Prussia in 1805, and the Queen of Etruria in 1807, and a diamond ring from the Czar of Russia in 1811. The chief point upon which, I predict, his lasting fame will rest was, however, wholly unappreciated during his life, and now, seventy-five years after his decease, it seems to have escaped the notice of all his biographers, and to have been but three times alluded to by writers upon midwifery.

Very interesting, moreover, appears the fact, to which Dr. Faget has also drawn attention, that Dr. Rush studied at the University of Edinburgh, and had access to that wealth of mediæval medical literature in its library in which Simpson so revelled, and whence he was accustomed during his researches into obstetric medicine, surgery and sanitation, to adduce so many wholly forgotten precedents. As a student myself of that ancient school, I can appreciate the influences that formed Rush's character, as observer, medical philosopher and practitioner. Born near Philadelphia in 1745, Dr. Rush took his degree at Edinburgh after two years of study there in 1763, and he proved Scotch in his subsequent methods of thought and of action, till his death in 1813.

Channing again was a pupil of Rush, to whom it was always his delight to affectionately refer. He graduated as a physician at the University of Pennsylvania in 1809. Through Rush's influence it was, undoubtedly, that he in turn resorted to the University of Edinburgh, and there drank from the fountain that had inspired his preceptor. It was not till 1812 that he received his medical degree at Harvard. He retained through his life his affection for the Scotch capital. His relations with Simpson were intimate, and it was his delight that while Simpson was the originator of actually induced anæsthesia in midwifery, he himself was the first American to urge its general use for this end. So far as the realization and final employment of obstetrical anæsthesia are concerned, Edinburgh, through Channing its American, as well as Simpson its direct representative, well earned its palm. It is strange that the first conception of the idea should also have been by a foster child of Edinburgh, Dr. Rush. Again, Drs. Channing and Charles T. Jackson were friends and close neighbours. They had long before occupied the relations of teacher and pupil. They lived upon the same street, their houses being but a few yards apart. They were upon confidential terms of acquaintance, with similar tastes for abstruse research in very unusual directions. The only wonder now is that the one, knowing the need of suffering woman which Rush at the very commencement of his medical studies had taught him, for an artificial solace at the time of her greatest physical trouble, and the other, having discovered and bearing for so long in his mind the anæsthetic qualities of the agent which gave the first step towards the solution of the problem—that these men should not have come more closely together, and the obstetric world's great secret been earlier made known. Jackson was an accomplished chemist, and searcher for recondite applications of his science to art, and Channing a most remarkable medical antiquarian. With Channing as his coadjutor, Jackson would not probably have been so grasping for riches and for fame as he proved when associated with Morton, though this may have been but the dremonition of the mental malady which, as in the sad case of his competitor, Horace Wells, occasioned his death—while poor Morton, jealous and all tenacious to the last, died, though more suddenly than Jackson, just as consequentially. The fearful quarrel, that involved in its scandal wellnigh the whole profession of the time, and indeed almost the good name of science itself, would perhaps thus have been avoided, and the birth of the divine idea might not have been, as it was, attended by the sundering of intimate personal ties, by deep distress and by wailing, the echoes of which have as yet scarcely ceased.

There is a strong parallel that may be drawn between the posthumous estimates of the two illustrious physicians of whom I have chiefly spoken in the present communication. It was at the close of the meeting of the American Medical Association at Washington, in May, 1870, that the news was received of Simpson's death, telegraphed by his son to your present reader within a very few moments after the event had occurred, and there are undoubtedly those now here who recollect with what regret the announcement was received by the Association, and the solemnity of the memorial meeting which was held immediately afterwards by its delegates and the medical residents of Washington. Whatever the previous feeling of individual members of the profession, in favour of ether or of chloroform as an anæsthetic, or regarding the respective claims of Boston and Edinburgh, which had improperly been made to seem antagonistic, all cavil was silenced at the touch of death. It has been so also with Dr. Rush. The rivalries of his time, which were intense, are forgotten. His own city, to which in his lifetime he was no prophet, points to him with pride. The great professional centres of our continent vie with each other in recognising him as the most fitting representative of early American medicine, and the chief ornament of the far reaching University whose distinguished provost is one of the orators at the present meeting of the Association. Seventy-six years have now passed since the death of Rush. It is but of late, as our lamented ex-President Gross said of our equally great McDowell, that "the chaplet that should have been worn on his brow has been placed by a grateful profession upon his tomb." [22] To add a fresh leaf thereto is not my privilege merely, but a filial duty. It is seldom that a man can trace back for a hundred years the influences that have shaped his own life and the little work he may have attempted to accomplish for medicine. Rush was at Edinburgh in 1768. It was entirely through his advice that thither went his pupil Channing. It was by Channing's influence that it became my own Mecca in 1854. Sincerely grateful, therefore, I am to Rush, and delighted to aid towards the high esteem in which he will henceforth be held by our obstetrical brotherhood. Should the question ever arise, from the sequences that I have endeavoured to trace, whether Simpson, like Channing, had appreciated Rush's prophecy, I am sure from what I know of his character, that such could not have been the case. He ever freely gave of his knowledge to the world, concealing nothing, and he was particularly generous in his treatment of Americans, whether living or dead. Even after Channing had quoted Rush, the full meaning of the American prophecy seems to have escaped Simpson, as it has us all, else he would have been sure to have used it, sharply, when replying to the senior Bigelow, equally unaware of its existence. The latter of Simpson's answers to the Boston sage was written, it will be remembered, from his deathbed. It was his farewell to the profession, of obstetrics and at large—happy, he said, "if it tend to fix my name and memory in their love and esteem." [23] At such a solemn hour, had he clearly

[13] "The Employment of Anæsthetics in Obstetric Medicine and Surgery." (Read before the Massachusetts Medical Society, June, 1863.) *Boston Med. and Surg. Journal*, October, 1863, p. 246; and re-published under the title "Eutokia; A Word to Physicians and to Women upon the Employment of Anæsthetics in Childbirth." Boston, 1863, 8vo. See also, "On Chloroform Inhalation during Labour; A Reply to Dr. Robert Johns, of Dublin." *Boston Medical and Surgical Journal*, August, 1863; and "The Practically Absolute Safety of Profoundly Induced Anæsthesia in Childbirth, as compared with its Employment for General Surgery." *Edinburgh Med. Journal*, February, 1877.

[14] Loc. cit., p. 268.

[15] "The Medals, Jetons, and Tokens illustrative of Sanitation." *The Sanitarian*, April, 1888, p. 349, etc.

[16] "An Inquiry into the Effects of Ardent Spirits," etc., already quoted; "Observations upon the Habitual Use of Tobacco upon Health, Morals, and Property."

[17] Dr. Rush edited Cleghorn on the "Diseases of Minorca," in 1809; and shortly after, in 1810, Hillary upon the "Air and Diseases" of the same island.

[18] Dr. Rush edited Pringle on "Diseases of the Army," in 1810. He had held, under appointment from the Continental Congress, the high office of Surgeon and Physician-General of the Hospitals in the Middle Department of the Army.

[19] "Observations, intended to favour a supposition that the Black Colour of the Negro is derived from Leprosy." *Trans.* Am. Phil. Society, vol. iv., 1792.

[20] "Remarks upon the Hydrophobia." Am. Med. and Phil. Register, N. S., July, 1813, p. 16.

[21] "Facts, intended to prove the Yellow Fever not to be Contagious," 1803; "An Account of the Bilious Yellow Fever as it appeared in Philadelphia in 1793, 1794, and each successive year till 1805."

[22] "A Century," etc., p. 121.

[23] "Modern History of Anæsthesia." (Anæsthesia, Hospitalism, etc. Edited by Sir W. G. Simpson, Bart.) Edinburgh, 1871, p. 41.

understood what we now know of Rush, his would have been the hand, promptest of all, to give justice where it was due.

Just as John Bell, of Edinburgh, in 1794, urged the performance of ovariotomy, and in 1809 it was successfully accomplished by his pupil, Ephraim McDowell, of Kentucky, so in 1802 or thereabouts Dr. Rush, a graduate of Edinburgh, foresaw the possibility and need of obstetrical anodynia, and it 1847 his dream, by all forgotten, became reality at the hands of the Edinburgh professor, Dr. Simpson.

Dr. J. R. Chadwick has asked me if Rush could have been familiar with Joseph Priestley's laboratory experiments with nitrous oxide. I have no doubt that such was the case, aside from the fact that after 1794 Priestley was a neighbour of his in Pennsylvania, and most probably also a personal friend. (It is another curious coincidence that a near relative of the philosopher, Dr. William O. Priestly, of London, should have been one of Simpson's best loved, and subsequently most disguished pupils.) It is moreover possible that Rush had noticed what Davy had just then suggested, in 1800, regarding the use of nitrous oxide as a purely *surgical* anæsthetic. However this may be, the fact remains that Rush had advanced far beyond the point assumed by Davy. What he desired and foretold was not the destruction of sensibility alone, but the retention with this, in full activity, of a certain usually dormant, but in obstetrics all important, system of nerves. Davy made no reference to allaying the pains of childbirth. His whole thought was of *surgical* anodynia, the mere quieting of general sensibility. He evidently never dreamed of obstetrical anodynia, where nervous irritability and uterine contractility must be retained unimpaired. And so with Boston. To Boston, indisputably, belongs the honour of having first demonstrated the general practicability and safety of induced surgical anæsthesia, against which there did not exist the then seemingly grave theological objections that were so vehemently urged against its *obstetrical* employment, and which made the triumph in this direction the more difficult, and yet for this very reason the more to be commemorated.

THE RUSH MEDALS.

I have thus briefly presented Dr. Rush's claim to be honoured by you, gentlemen, the teachers, cultivators, and practitioners of midwifery in the United States. Eventually, the memorial determined upon by this Association, in collecting the funds for which Medical Director Gihon, U. S. N., Dr. Geo. H. Rohé of Baltimore, ex-President Toner of Washington, and others of our Committee, have laboured so faithfully, will be erected, and mankind will be reminded of "the Sydenham of America."[24] It remains for you to influence the profession toward the hastening of that time, marking at last "the Rush renaissance."[25] Meanwhile, that you may contemplate the features of the man himself, and appreciate the better the parallel that has been drawn between him and the great light of British medicine, I show you reproductions, from my own collection, of the two medals that have been struck in his honour at the U. S. Mint, of which he was long the Treasurer. They have been photographed for me from the originals, greatly enlarged, by my friend, Mr. Clarence Stanhope, of Newport, and I wish that copies could be placed in every medical, historical and public library in the country. The following are their descriptions:

1. Obverse. Bust, with queue, to left; a neck cloth under the collar. Beneath shoulder, F (urst). Inscription: BENJAMIN RUSH, M.D., OF PHILADELPHIA.

Reverse. A river, flowing from side to side forwards; in background, the setting sun, with clouds and mountains. Large trees in foreground, to right; to the left, SYDENHAM. In front, a block of stone, on which: READ—THINK—OBSERVE. Upon this, an open book. Beneath, to right: M (oritz). FURST FEC. Exergue: A (nno). MDCCCVIII.

Silver (?), bronze, lead. 41 mm. 27.

The legend upon the reverse is from the close of his lecture, "On the Causes which have Retarded the Progress of Medicine." It is very similar to the "HEAR, READ, MARK, LEARN," upon an old medal of Christ's Hospital School, London, which is in my collection, in silver.

I have this medal of Dr. Rush both in bronze and lead. It is also at the Surgeon-General's Office at Washington, from the Lee Collection, in the former of these metals. It is very rare, and seems unknown to all numismatic writers. The die cutter, Fürst, was at the time an assistant engraver at the U. S. Mint.

2. Obverse as in preceding.

Reverse. An altar, upon which rests an open book. In front, upon an oval panel, a bust of Æsculapius, with serpent-encircled staff. In another panel, at right, an urn. Beneath, to right: M. Furst Fec. Exergue: A(anno). MDCCCVIII.

Bronze, gilt bronze. 41 mm. 27.

Unknown to all writers upon medals. Still rarer than the preceding. It is in the Lee Collection and my own.

I have endeavoured, but thus far in vain, to ascertain, the history of these medals, and have been aided in my enquiries by Dr. Wm. Pepper, of Philadelphia, through whom I have received letters from Hon. A. Loudon Snowden, long Superintendent of the U.S. Mint, and Mr. R. A. McClure, in charge of the Mint Cabinet. Col. Snowden has written, under date of March 21, 1889: "The Dr. Rush medal is not in the Mint Cabinet, and its history is obscure," and again upon the 27th, "I have taken considerable trouble to seek information from several sources, but thus far without any particular success." Mr. McClure, like Col. Snowden, was aware of the existence of but the first of the medals described above, and this he had seen at Mr. Alexander Biddle's. He reports: "Mr. Biddle did not succeed in finding any information or clue to the occasion of the striking of the Rush medal. I went to the Ridgway and Philadelphia Libraries, and the rooms of the Historical and Philosophical Societies, and looked over the file of two daily papers of 1808, the year in which the medal was struck, and found nothing." Messrs. Bailey, Banks and Biddle, prominent medallic artists of Philadelphia, have also been unable to furnish me with the slightest information. From this will be perceived the extreme rarity of the medals, and the fact that though both of them were struck at the Mint, the very existence of one of the two had passed from the knowledge of the Mint authorities. Of the first of them, there are said to be known two specimens in silver. It was remarked several years ago,[26] before the revival of an interest in medical numismatics, that these would be cheap at $20 each. They would probably now bring very much more than this sum, and it is to be hoped that they have been secured for permanent preservation by medical institutions, though as to this I am as yet uncertain.

The portrait bust of Dr. Rush upon the medals was undoubtedly from sittings for the purpose, since they were executed five years before his death. It will therefore be of service, in connection with the familiar painting by Sully, in giving his exact features for the monument undertaken by the Association, when at last its construction shall be commenced.

In conclusion, a brief quotation from the "Elegiac Poem on the Death of Dr. Rush," may not seem out of place:

> "Unchecked by ridicule, unawed by rules,
> Fallacious dogmas, and the pride of schools;
> With all the ardour of inspiring youth,
> From fair experiment, the test of truth,
> Deep-searching Rush ingenious reasonings drew,
> Bold to defend, and potent to subdue!
> Determined truth by every means to try,
> Where others dared not gaze, 'twas his to fly;
> He rescued truth from mad opinion's maze,
> And caught from Science her inspiring rays;
> Beamed o'er the healing art a radiant light,
> Like orient phosphor o'er the mists of night."[27]

How appropriate beyond the intention of its writer, who was but lamenting his decease, is the following, to Rush's supreme anticipation of the discovery and application of artificially induced anæsthesia to midwifery!

> "Thy light, bright Science, to this sphere confined,
> Was far too little for his mighty mind!
> Which soared above this world, and broke away
> From darkened nature to a world of day."[28]

* * * *

A Plea for the General Adoption of Anæsthetics in Labour. By Mark B. Smith, M.D., McPherson, Kansas (*Medical Age*).—This is a subject of untold interest to both the physician and the parturient patient. From the time of the first employment of ether by Sir James Y. Simpson down to the present, they are many who oppose any and all means that will relieve the pangs of childbirth, basing their opposition on Scriptural grounds ("In pain and travail shalt thou bring forth"), apparently forgetting that the first parturition recorded in Holy Writ, and the only one in which man was the chief participant, points directly to such relief: "God caused a deep sleep to fall upon Adam!"

Among other arguments we find the following: "The effect would lessen or abolish maternal instinct:" "It is immoral, as producing a

[24] The above term was first applied to Rushby his friend and biographer, Dr. Lettsom, of London. Loc. cit., London, 1815, pp. 3-15.
[25] C. K. Mills. "Benjamin Rush and American Psychiatry." *Medico-Legal Journal*, December, 1886—Reprint, p. 2.
[26] *American Journal of Numismatics*, 1885, p. 70.
[27] Loc. cit., Philadelphia, 1813, p. 15. [28] *Ibid*, p. 31.

kind of intoxication;" "Dangerous, because of peculiar idiosyncrasies and organic disease;" "Because it is cumulative, sacrilegious, an attempt to set aside the decree of Providence, and interferes with Divine justice." All this in the light of the present, seems superstitious and absurd, yet there was this excuse: It was a new remedy. and the habit of theorising without practical demonstration, was much more prevalent forty years ago than now, and facts prove that, owing to the brilliancy of the discovery, there were many exaggerations.

In Vol. I, of the Transactions of the American Med. Association, the Committee on Obstetrics report unqualifiedly that chloroform given in small quantities during confinement, is safe in *all* cases. Up to this time it had been employed in something over 2000 cases without a single untoward result. Dr. Henry Miller believed chloroform the safest and most manageable of all anæsthetics, and if not used to a degree beyond the absolute relief of pain, was wholly unattended by danger.

Anæsthetics in midwifery was urged by some of our most prominent obstetricians as early as 1857, and since that time nearly all have added their approval. Dr. Geo. Johnson, a careful and accurate observer, who has made a study of comparative statistics, shows that the death-rate under chloroform has *not* been increased or convalescence prolonged.

The factor that seemed to do more to influence the progress of obstetrical anæsthesia in Great Britian, was its acceptance by the Queen. when Prince Leopold was born, chloroform being administered with gratifying effects, and with the highest praises from Her Majesty. The great mistake under which those laboured who most opposed the method was, the belief that to annul labour pain, profound anæsthesia was necessary; whereas, all that it is necessary is, so to speak, semi-anæsthesia.

Dr. Miller says that "anæsthesia in natural labour is the greatest boon yet discovered for the relief of suffering womankind." Certain it is that the physician who uses chloroform in natural as well as preternatural labours, will not only be satisfied himself, but will for ever establish himself in the goodwill of his patients.

Chloroform being recognized by our ablest physicians as the best anæsthetic agent for this purpose, it may not be amiss to consider a few of the physiological actions of the drug. It is unnecessary here to describe the three stages of anæsthesia which are laid down in text books. It is important, however, in this connection, to observe that chloroform acts principally on the brain or spinal cord, and lastly, upon the peripheral nerves; acts first upon the lower end of the spinal cord, then the dorsal and the cervical portions in succession, and lastly the brain. It is regularly progressive from below upward, therefore one understands why pain is relieved before consciousness is lost, and that uterine contractions are not interfered with during its proper administration.

Dr. Lusk reported a case in his Obstetrical Clinic, where dangerous symptoms were experienced after deep inspirations from a handkerchief freshly saturated with chloroform placed in a paper cone, which were probably due to the manner of administration rather than the drug itself, for the docter opined the whole trouble arose from crowding the cone down upon the face by the assistant, thus shutting out all air and concentrating the vapor. According to Snow and Simpson's statistics, men are naturally more susceptible to the influence of the drug than are women, in the proportion of two to one, while in the pregnant state there seems to be a peculiar immunity from danger which does not exist in the unimpregnated. I have used chloroform in a little over 225 cases with the most happy results in every instance. I have delivered seven pairs of twins among this number with most flattering success. I feel certain had it not been for chloroform in the following case, the patient would have died. Mrs. B.——æt. twenty-two, primipara. Was called to see her about two weeks before confinement when she was suffering from great dyspnœa. On examination found her with most intense anasarca; urine scanty, colourless, and containing about thirty-three per cent. of albumen: tongue dry and fissured; extreme thirst; temperature 100.6°; pulse 120°; great distress after taking nourishment; bowels constipated. I made an unfavourable prognosis but commenced treatment in the ordinary way—supportive, diuretic, diaphoretic, etc. In ten days her size was reduced so that she had some resemblance to a woman. Confinement took place the night of Sept. 17, '87. The pains began irregularly, and were very aggravating. I began giving chloroform at once, being very apprehensive of convulsions. In less than fifteen minutes the contractions became regular, and increased in intensity, to the great satisfaction of both self and patient. I continued the administration with care until her last baby was born, about nine o'clock the following morning, without a single untoward effect. After putting the patient in as comfortable a condition as possible, I left for home with a more exalted opinion of chloroform than ever before. The following morning I was summoned in haste, the messenger informing me that my patient was in a convulsion. I reached the place as quickly as possible, and at once gave chloroform and bled freely, which soon controlled the convulsions. Then removed the chloroform, when bright spots began soon to appear before her eyes, which admonished us to again resort to the anæsthetic, which was continued for about twenty-four hours, as every time we attempted to remove, symptoms of convulsions reappeared. After that she slowly recovered, and to-day enjoys the pleasurable company of her babies.

I believe that there are very few contra-indications to the use of chloroform in labour, though, of course, when there is severe organic disease of any kind it should be administered with proportionate care. In advanced disease of the lungs statistics prove clearly that the agent can be given with perfect impunity and even with benefit, as is shown in M. Lucas Championniere's case, where he gave it to a woman well advanced in tuberculosis for four hours without intermission; the effects were so delightful that she begged for its continuance, and to gratify her he administered for an hour after the child was born, and without the slightest bad effect. Formerly it was held that if a patient had any heart trouble chloroform could not be tolerated; but it has been scientifically proven that there is but one organic cardiac disease that contra-indicates the use of the drug in parturition, and that, fatty degeneration. But even in this disease Dr. Snow says: "A person is more likely to recover with chloroform, if the pain be severe, than without it." In all valvular disease where chloroform is properly given it is safer than severe pain, not only in obstetrics but in all surgical operations. and causes less disturbance of the heart. Dr. Championniere remarks: "If I recognise an organic affection of the heart without pulmonary complication, I should rather give the chloroform than to let her suffer."

Dr. Verglet Bordeau, a very reliable author, says unqualifiedly: "Disease of the heart is not a contra-indication to the use of anæsthetics!" The most complete and satisfactory study of the question was by Dr. Angus McDonald, in 1878, who published a book entitled, "The Bearings of Chronic Diseases of the Heart upon Pregnancy, Parturition, and Child-birth," in which he says: "If chloroform be properly administered, I think it cannot but be useful in all cases." He also argues, as do most authors, that the straining and suffering is far more dangerous than chloroform properly administered.

Dr. Fordyce Barker says: "Disease of the heart, lungs, or kidneys, is an additional reason for resorting to anæsthesia in midwifery, as the vital forces are thus saved rather than exhausted." And so I might cite you others, but the authority already referred to is certainly all that one can desire. In my experience I have been led to give chloroform almost indiscriminately in labour; and I have never had a case in which I regretted so doing. I never have had a post partum hæmorrhage since I adopted the use of chloroform, save once, and that was in a case I delivered immediately upon entering the house, in which I did not use this agent. Three years laters I attended the same woman and gave chloroform, and there was no hæmorrhage.

I have attended at least a dozen women who before, in confinement, always without chloroform, had post partum hæmorrhage, and suffered no undue flow when the drug was employed. Experience and observation, therefore, teach me that the agent is more likely to be attended without than hæmorrhage, or, in other words, chloroform prevents hæmorrhage by preserving the strength of the patient during labour, which overcomes that muscular exhaustion that is inevitably present in post partum flooding.

I have never attended a single case of confinement with chloroform which was attended with sufficient laceration of the perineum to require operation; therefore, in my judgment, it prevents laceration by causing relaxation of the soft parts. I have also noticed that labour is hastened by giving the agent, and that it is seldom necessary to resort to forceps. Perhaps this can be accounted for in part, at least, because of relief from the pain, the patient being easily induced to assist expulsion. Also, I have noticed many times that when the pains were aggravating and irregular, they were at once intensified and satisfactory on administering chloroform.

The time is fast approaching when it will be as unusual to attend a case of obstetrics without anæsthetics, as it is to-day to amputate a leg without an anæsthetic. Possibly the tenor of this paper may not meet with the approval of all, but it is strictly in accord with the practice and teaching of the most eminent obstetricians of America, England, France, and Germany.

Those who are using anæsthetics in all cases of labour, with rare exceptions, are capturing the confidence of the people, and justly leaving those in the lurch who fail to adopt it.

If I succeed in inducing even one member of the profession who has not previously used chloroform in natural labour to try it, I shall be abundantly remunerated for this paper.

VI.—DISEASES OF THE SKIN.

RECENT ADVANCES IN THE TREATMENT OF DISEASES OF THE SKIN.[1]

By L. Duncan Bulkley, M.D.,

of new york.

In opening the Second Session of the Section of Dermatology and Syphilography of the American Medical Association. I must first express my thanks publicly to the gentlemen who at the last session so kindly called me the second time to preside over your deliberations an honour which was as unexpected as it was gratifying. I must also congratulate you, and, I believe, the profession at large, upon the interest which the Section has developed, and express the hope that by its means the large and important field of study and practice which is here represented may be simplified, so that diseases of the skin may no longer represent the *terra incognita* which they have sometimes been considered by those inexperienced therein.

As was remarked last year, on opening the session, the Section is organised for work in the line of *practical* dermatology, and as a Section of the American Medical Association it should be attended by members who are not dermatologists, and subjects should be presented which are of general and practical interest and value to the general practitioner if we would seek to give the widest usefulness to our Section.

With this aim in view we have this year, as well as last, prepared a "question box" into which any one may drop a written slip regarding any subject upon which he would like aid or information from those present, or on which may be proposed subjects for future discussion. It is earnestly requested that this method of securing an interchange of ideas be utilized to as great a degree as possible; an hour has been set apart on the second day for answering such questions, and further time can be taken later if necessary; if freely used this plan might be made the means of developing very interesting practical matter which would not otherwise be reached.

The general topics assigned for discussion at this session, namely, "The Treatment of Tinea Tonsurans," and "The Indications for and Duration of the Treatment of Syphilis," are, it is thought, subjects which are of very considerable practical and general interest. While pathological considerations, and those relating to rare and peculiar diseases of the skin may be of a certain advantage here, and may more or less find a place in this Section, it is hoped that more common matters, which shall be of use in general practice, may in the main be presented, while the more abstruse and difficult subjects shall be left for the consideration of those whose attention is wholly or largely given to this branch, in the American Dermatological Association.

By the rules of the American Medical Association it is the duty of the Chairman of the various Sections to give an address upon the advances which have been made in the departments of medicine represented by the Sections, and to bring to their attention such matters as may be considered of interest and profit. In accordance with this rule I beg now to direct your attention for a short time to the subject of "Recent Advances in the Treatment of Diseases of the Skin." Inasmuch as this is the first time that this subject has been presented before the Section, we have no date from which we may reckon the *recent* advances in the treatment of diseases of the skin; I have thought it best, therefore, not to confine our considerations to any specified time, but to look over the field a little broadly, and to take account of stock, as it were, endeavouring to discriminate between the good, bad, and indifferent of the more recent so-called "advances" in this department.

It is a constant remark among those acquainted with the subject, that the need is not so much for new remedies, in dermatology, or indeed in any department of medicine, as it is of a better knowledge of the true value and mode of application of those means of combating disease which we now possess. While the question is repeatedly put to one occupied in any special branch, "What is the newest or best remedy for this or that complaint," he is obliged just as frequently to reply that there is no one remedy or plan of treatment which is wholly satisfactory in any particular disease, or which will reach every case; and if perchance, a suggestion is made of any particular drug or method he feels that the chances are very great that there will be some error or failure to use the remedy correctly, and that the ultimate result is very doubtful. In no department of medicine is this true to a greater extent than in diseases of the skin, and yet nowhere can we see more brilliant results, the accuracy and truthfulness of which cannot be denied, because plainly visible to all, than in the department of dermatology.

The first advance, therefore, to which I would call attention in the treatment of diseases of the skin is the recognition of the fact on the part of those acquainted with the subject that accuracy of diagnosis is essential to success in the treatment of this class of affections, and intelligence in the application of remedies can alone insure results which are not disappointing. I should feel like apologizing for such an apparently self-evident statement, were it not that a considerable experience in consultations with other physiclans has made me think that too little care is often spent in studying this class of cases, and in recognizing all the features requiring attention, both as regards the local affection and the constitutional condition of the patient. If the same care and thought were expended upon certain cases of skin disease which are readily given to obstinate or obscure diseases of other organs there would be less difficulty in their management. The time has passed when a patient afflicted with an affection of the skin should at once be given arsenic internally and zinc ointment externally; and then, in the event of probable failure, that he should be given mercury or iodide of potassium, under the suspicion that perhaps there may be some "taint;" and then in the further event of a failure of these plans, that he should be either left to suffer, or be informed that it would be dangerous to cure the skin trouble lest "the disease might strike in." There is much in the practice of dermatology which the general practitioner may readily grasp and use, if only sufficient care and thought be given, and, in my judgment, as remarked before, there is much less need of new remedies than there is of a careful, proper, and widespread knowledge of the means already known, and their intelligent use.

The second point to which I would call your attention is, that while accuracy of diagnosis is the first essential to success, it is almost equally important to consider well and appreciate thoroughly the particular condition or stage of the eruption under consideration, and, knowing the action and effect of each remedy to use it accordingly. The same measure advised for a certain disease will act entirely different under different conditions and at various stages of the complaint, so that one constantly sees harm done from harsh remedies when those of a soothing nature were required, and mild measures are often uselessly employed when those of a stimulating character were demanded. As a corrollary to this we learn that even the new remedies and methods of treatment advanced will often fail of success unless it is known exactly at what stage or condition they were employed, and in what manner they acted.

One more general remark may be added and we will pass to consider some of the more recent advances in dermatology. It is this. Not only do remedies and measures act differently in different persons and under diverse conditions, and in different stages of a disease, but their action may be modified, aided or retarded by a number of influences which are not always thought of, such as diet, hygiene, and the effect of other remedies, internal or external. Therefore, in the use of any newly-recommended measure all other proper adjuvants are to be employed, and all antagonistic elements are to be removed; and as a corrollary to this we learn that new remedies are not always to be judged negatively by an apparent failure, nor, on the other hand, can we always conclude favourably of the effect of any special agent unless all other elements bearing on the case are also duly considered.

With this much of preface we may consider some of the therapeutical elements which have in recent years been introduced into the practice of dermatology. Time will not permit of a full consideration of all that might be mentioned with advantage, much less of the many which have been brought forward whose claims have not been fully substantiated. Indeed, much even that might be of interest and value must be left for my successors in office, who will, no doubt, consider and present the subjects with abler pens than mine.

First, among the advances in dermatology during recent years to be mentioned should be the *mechanical therapy* of diseases of the skin, which, when properly employed, aids very greatly in the management of many conditions which had heretofore proved very rebellious; of this there are several forms. The curette is very serviceable in the treatment of lupus, also in removing small epitheliomata, warts and excrescences, and it may sometimes be used with advantage on chronic patches of eczema, also psoriasis.

The cutaneous punch, as introduced by Keyes[2] is also of value in removing small circular portions of skin, the seat of moles and the like, also powder stains, and likewise in taking sections of diseased tissue for microscopic examination.

The cutaneous lance plays an important part in the treatment of acne, and together with the comedo extractor, will accomplish more for some cases of this disease than weeks or even months of other treatment can effect without them.

Multiple scarification, performed either with a scalpel or an especial knife made for the purpose, with the cutting surface on the end, or with the many-bladed knife of Squire, serves an excellent purpose in certain cases of lupus, and will also yield good results in some nævi, and in

[1] Read in the Section on Dermatology and Syphilography at the Fortieth Annual Meeting of the American Medical Association held at Newport, R.I., June, 1889.

[2] Keyes, Jour. Cutaneous and Genito-Urinary Diseases, vol. v., 1887, p. 98.

rosacea. The large veins of acne rosacea, especially on the nose, may be removed by slitting them up carefully and burning the track of the vein with a point of nitrate of silver. They may also be successfully obliterated by electrolysis.

Electrolysis now plays a considerable part in dermal therapy, and in some conditions yields brilliant results. Its use, now so common, in destroying superfluous hairs, need but be mentioned, as is well known, it offers about the only method of permanently removing this blemish, which often proves such a serious annoyance or distress to those thus afflicted. The only other method known to me is one which I devised and presented some years ago, namely, that of boring out each hair follicle with a three-cornered needle, dipped in carbolic acid; when well performed this is fully as successful as electrolysis, and is preferred by some patients who have had both methods used on them.

Electrolysis is likewise of value in destroying pigmentary and hairy moles, and nævi of various sizes, as also in producing the absorption of tumours. The galvanic cautery also plays an important part in the treatment of some affections, the end, however, being the same as that obtained by the actual cautery and by Pacquelin; but with the galvanic cautery more delicate work can be done, and Besnier has devised a considerable variety of shapes for the knives, some of them having a number of fine points, heated by electricity, for the treatment of nævus and other conditions. The value of the galvanic current, variously applied, must also be reckoned among the advances of recent years. It is most valuable in checking the pain accompanying the following herpes zoster, and there is some evidence that it tends to arrest the progress of the disease; it is valuable in relieving the pain in dermatolgia, and to a certain extent will control pruritis. Galvanization has also been reported on favourably in connection with other diseases of the skin, notably eczema, it being used in the form of general or central galvanization. Faradization has also been recommended in acne rosacea, but is of doubtful value.

Perhaps there are no remedies to which more attention has been been called of late than ichthyol and resorcin, largely through the instrumentality of Dr. Unna, of Hamburg, and time sufficient has now elapsed since their first introduction to allow of judgment regarding their true merits, for quite contradictory reports have appeared concerning them. They are placed by Unna as reducing agents, drawing oxygen from the tissues, and altering the corneous layer of the skin. They are by no means indifferent substances, but while capable of doing more or less good when properly used, they are irritating in many conditions, and in my experience, as also that of some others, they have not fulfilled the expectations excited by Unna's original contributions to the subject.

Ichthyol should always be used weak at first, the strength being increased according to the effect produced; 2 per cent., either in water or ointment, is strong enough to begin with, and rarely will more than 5 per cent. be well borne, at any rate on American skins. As a lotion, 2 to 3 per cent. in water, it certainly often exercises a remarkable effect on ulcers of the leg, they being kept wet with it all the time, the dressing being covered with a thickness of woollen blanket (but not rubber or oil-silk), to prevent too rapid evaporation. It is sometimes well at night to substitute an ointment, with 2 or 3 per cent. of ichthyol and a little zinc oxide. In certain moist eczemas about the folds of the body, a light bathing with a weak, 2 per cent. ichthyol lotion, followed by a calamine and zinc lotion, will give much better results than the latter alone. In certain cases in eczema in infants the effect produced by a thorough and continuous use of a zinc ointment containing 20 grains of ichthyol and 15 or 20 of salicylic acid, is certainly remarkable, and undoubtedly much greater than from either the zinc ointment alone, or when combined only with the salicylic acid.

Time does not permit of a fuller consideration of ichthyol in this place, but enough has been said to show that it is an agent of some importance, capable of doing harm when used too strong, and of moderate value in allaying acute erythematous conditions of the skin.

Resorcin, which has been spoken of much in connection with ichthyol, is said to have much the same effect, but its action is more uncertain, and its use more restricted. It is undoubtedly a parasiticide, and forms a very cleanly and pleasant application in tinea vesicular, used in solution from 3 to 5, or even 10 per cent. in water with a little alcohol and glycerine. It is also of value in tinea circinata and maginatum, and it is claimed that a strong ointment, from 3 to 10 per cent., will act most favourably in tinea sycosis. Resorcin is also serviceable in pityriasis capitis, used in a 3 to 5 per cent. solution with alcohol and castor oil. In seborrhœic eczema it also acts very well in a strength of 3 per cent., with zinc ointment. In psoriasis it may be used considerably stronger, even up to 10 to 20 per cent. in ointment.

Resorcin certainly seems to have considerable effect upon the sebaceous glands, and is useful in many of the forms of acne. Used in an alcoholic and watery solution, of from 2 to 5 per cent, it checks the oily secretion so common on portions of the face, and as an addition to lotions containing sulphur it often aids greatly in the treatment of acne. It must not be forgotten, however, that resorcin may prove very irritating if used in too strong a proportion—3 to 10 per cent. is quite sufficient—and also that it often produces a discoloration of the epidermis, which may take some little time to wear off.

Unna has also, during the past few years, written much concerning the uses of various ointments, made into the form of plasters, by making them thicker and more sticky, and then pressing them upon and into the meshes of muslin; the so-called "pflaster-mulle" have been imported from Germany but little, and are difficult to obtain. They are made to contain zinc, tar, naphthol, chrysarobin, ichthyol, salicylic acid, and other ingredients. These plasters serve a certain valuable purpose in keeping a fixed dressing in localities where it would otherwise be difficult to retain an application, and also by the maceration afforded aid in removing disease; on the other hand, they often prove too drawing, and unless the medicament is very bland, much inflammation may thereby be set up.

In the same line of therapy may be mentioned the "dermatological plasters," now prepared and offered by several firms in this country, which at times serve an excellent purpose; they are mostly made up with rubber plaster, and often prove too heating and drawing, and can hardly be considered the equivalent either of the "pflaster-mulle" or of proper ointments well spread on lint and kept in place by suitable dressings. Among these new plasters may be found those containing very many of the more common and newer drugs used in dermatology. I cannot speak personally regarding very many of these, but some of them prove at times of great service. Thus, in thickened patches of eczema, about the hands and feet especially, the salicylic acid plaster, 10 or 20 per cent., will promote absorption and greatly reduce the thickening; those with zinc and tar, each 10 per cent., are also valuable in eczema, and those with 10 per cent. of chrysarobin act well in psoriasis; all are familiar with the value of plasters containing mercury in reducing the late lesions of syphilis.

Attempts have been made in other directions as to the means of securing fixed dressings on the skin, and various preparations have been brought forward to hold the medicament in solution or suspension, while it is painted over the affected surface. The use of collodion, made flexible with castor oil, has long been known, and this often serves a most excellent purpose when containing from 3 to 5 per cent. of chrysarobin, or pyrogallic acid, and as much salicylic acid; iodine may also be successfully applied in this manner. Gutta-percha dissolved in chloroform, the liquor gutta-perchæ of the Pharmacopœia, or traumaticine, as it has been called by the trade, affords another admirable method of affixing medicaments to the skin; any desired substance, oxide of zinc, bismuth, tannin, chrysarobin, or preparations of mercury may be suspended in it, and made to adhere to the skin thereby.

Another mode of making fixed dressings is that known as glycerine jelly, made by boiling one part of gelatin with three or four of glycerine, and a little water if necessary to make a gelatinous mass. The various ingredients desired are incorporated with this while hot, by stirring, generally from 5 to 10 per cent. being added, together with a little carmine to give a flesh tint if it is to be used on exposed surfaces. This forms a bland dressing, and with zinc or bismuth serves well to protect large surfaces; it will not adhere when there is moisture exuding, but on dry, scaly eczema, in some cases of lichen planus, and pityriasis losea, it forms a serviceable dressing. Carbolic acid, camphor, or cocaine may be adeed to relieve itching. It is applied by placing the jar containing the jelly in hot water, when the liquefied substance can be freely painted over the affected surface, forming a smooth protecting coat as it cools.

Considerable attention has been called to lanolin during the past few years, largely, it is feared, on account of the vigour with which it has been pushed in a mercantile way. Its merits have been pretty well tested, and it may be stated that it has not fulfilled the high expectations which have been raised concerning it; it has its value and its applications, but they are limited, and it will undoubtedly take its proper place among the remedies which are of value in the treatment of diseases of the skin. It does not answer alone as a basis for ointments, but when combined with other fatty ingredients, in about 25 per cent., it often aids in keeping the skin soft and pliable, when without it the oily matter would disappear and leave the surface harsh. It has been advocated largely on account of its supposed power of inducing absorption of the medicament which it contained; if this power existed in this substance alone, it would not recommend it for universal use, for in much of dermal therapeutics, the object is not to secure absorption of remedies, but to act on the outer surface. It would surprise many to see how very little it is used by those engaged in the practice of dermatology.

The Spirit of the Societies.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.[1]

ON MUSEUMS.

The president dealt with two subjects—Museums, their arrangement and utility; and the laws which regulate the evolution of organic beings. In considering the former, he said there could be no doubt that among the various methods by which the aims of the British Association may be brought about, the collection and preservation of objects available for examination, study, and reference—in fact, the formation of what are now called museums—was one of very great practical importance. It was a subject still little understood, though fortunately beginning to attract attention. A committee of members of the Association was at the present time engaged in collecting evidence upon it, and had issued some valuable reports. During the present year an asssociation of curators and others interested in museums had been founded for the purpose of interchange of ideas upon the organisation and management of these institutions. It was a subject, moreover, which had more than any other occupied his time and attention almost from the earliest period of his recollection, and it was in the hope of helping on or guiding the movement that he selected the subject.

THE ESTABLISHMENT OF A MUSEUM.

The first consideration in establishing a museum, large or small, either in a town, institution, society, or school, was that it should have some definite object or purpose to fulfil; and the next, that means should be forthcoming not only to establish, but also to maintain the museum in a suitable manner to fulfil that purpose. Some persons were enthusiastic enough to think that a museum was in itself so good an object that they had only to provide a building and cases and a certain number of specimens, no matter exactly what, to fill them, and then the thing was done; whereas, the truth was, the work had only then begun. What a museum really depended upon for its success and usefulness was not its building, nor its cases, not even its specimens, but its curator. He and his staff were the life and soul of the institution, upon whom its whole value depended, and yet in many they were the last to be thought of. The care, the preservation, the naming of the specimens, were either left to voluntary effort—excellent often for special collections and for a limited time, but never to be depended on as a permanent arrangement—or a grievously under-salaried and consequently uneducated official was expected to keep in order, to clean, dust, arrange, name, and display in a manner which would contribute to the advancement of scientific knowledge, collections ranging in extent over almost every branch of human learning, from the contents of an ancient British barrow to the last discovered bird of paradise from New Guinea.

PRECIOUS OBJECTS REALLY THROWN AWAY.

Valuable specimens not unfrequently found their way into museums thus managed. Their public-spirited owners fondly imagined that they would be preserved and made of use to the world if once given to such an institution. Their fate was, unfortunately, far otherwise. Dirty, neglected, without label, their identity lost, they were often finally devoured by insects or cleared away to make room on the crowded shelves for the new donation of some fresh patron. It would be far better that such museums should never be founded. They were traps into which precious—sometimes priceless—objects fell only to be destroyed; and, what was still worse, they brought discredit on all similar institutions, made the very name of museum a byword and a reproach, hindering instead of advancing the recognition of their value as agents in the great educational movement of the age. A museum was like a living organism—it required continual and tender care. It must grow, or it would perish; and the cost and labour required to maintain it in a state of vitality were not yet by any means fully realised or provided for, either in our great national establishments or in our smaller local institutions.

THE OBJECTS TO BE ATTAINED.

The real objects of forming collections were two, quite distinct, and sometimes even conflicting. The first was to advance or increase the knowledge of some given subject. This was generally the motive of the individual collector, whose experience showed him the vast assistance in forming definite ideas in any line of research in which he might be occupied that might be derived from having the materials for its study at his own command, to hold and to handle, to examine and compare, to take up and lay aside whenever the favourable moment to do so occurred. But unless his subject was a very limited one, or his means the reverse, he soon found the necessity of consulting collections based on a larger scale than his own.

WHAT THE NATURALIST REQUIRES.

Very few people had any idea of the multiplicity of specimens required for the purpose of working out many of the simplest problems concerning the life history of animals or plants. The naturalist had frequently to ransack all the museums, both public and private, of Europe and America in the endeavour to compose a monograph of a single common genus, or even species, that should include all questions of its variation, changes in different seasons, and under different climates and conditions of existence, and the distribution in space and time of all its modifications. He often had to confess at the end that he had been baffled in his research for want of the requisite materials for such an undertaking. Of course this ought not to be, and the time would come when it would not be, but that time was very far off yet.

WHAT THE PUBLIC NEED.

But there was another and a far larger class to whom museums were, or should be, a powerful means of aid in acquiring knowledge. Among such, those who were commencing more serious studies might be included; and he especially referred to the much more numerous class who, without having the time, the opportunities, or the abilities to make a profound study of any branch of science, yet took a general interest in its progress, and wished to possess some knowledge of the world around them, and of the principal facts ascertained with regard to it, or at least some portions of it. For such persons museums might be, when well organised and arranged, of benefit to a degree that at present could scarcely be realised. To diffuse knowledge among persons of this class was the second of the two purposes of museums. The main cause of what might be fairly termed the failure of the majorty of museums—especially museums of natural history—to perform the functions that might be legitimately expected of them, was that they nearly always confound together the two distinct objects which they might fulfil, and by attempting to combine both in the same exhibition practically accomplished neither.

WHAT IS THE MAIN END OF THE MUSEUM?

In accordance with which of those two objects was the main end of the museum, so should the whole be primarily arranged; and in accordance with the object for which each specimen was required, so should it be treated. The specimens kept for research, for the advancement of knowledge, for careful investigation in structure and development, or for showing the minute distinction which must be studied in working out the problems connected with variations of species according to age, sex, season, or locality; for fixing the limits of geographical distribution, or determining the range in geological time, must be not only numerous (so numerous, indeed, that it was almost impossible to put a limit on what might be required for such purposes), but they must also be kept under such conditions as to admit of ready and close examination and comparison. If the whole of the specimens really required for enlarging the boundaries of zoological or botanical science were to be displayed in such a manner that each one could be distinctly seen by any visitor sauntering through the public galleries of a museum, the vastness and expense of the institution would be out of all proportion to its utility; the specimens themselves would be quite inaccessible to the examination of all those capable of deriving instruction from them, and, owing to the injurious effects of continued exposure to light upon the greater number of preserved natural objects, would ultimately lose a large part of their permanent value. Collections of this kind must, in fact, be treated as the books in a library, and be used only for consultation and reference by those who were able to read and appreciate their contents.

COLLECTIONS DESIGNED FOR RESEARCH.

In the arrangement of collections designed for research, which, of course, would contain all those precious specimens called "types," which must be appealed to through all time to determine the species to which a name was originally given, the principal points to be aimed at were the preservation of the objects from all influences deleterious to them, especially dust, light, and damp; their absolutely correct identification and record of every circumstance that need be known of their history, their classification and storage in such a manner that each one could be found without difficulty or loss of time; and, both on account of expense as well as convenience of access, they should be made to occupy as small a space as was compatible with those requirements. They should be kept in rooms provided with suitable tables and good light for their examination, and within reach of the necessary books of reference on the particular subjects which the specimens illustrate. Furthermore, the rooms should be so situated

[1] Abstract of Presidential Address by Professor William H. Flower.

that the officers of the museum, without too great hindrance to their own work, could be at hand for occasional assistance and supervision of the student, and if collections of research and exhibited specimens were contained in one building it was obvious that the closer the contiguity in which those of any particular group were placed the greater would be the convenience both for students and curators, for in very few establishments would it be possible to form each series on such a scale as to be entirely independent of the other.

COLLECTIONS ARRANGED FOR INSTRUCTION.

On the other hand, in a collection arranged for the instruction of the general visitors, the conditions under which the specimens were kept should be totally different. In the first place, their numbers must be strictly limited, according to the nature of the subjects to be illustrated and the space available. None must be placed too high or too low for ready examination. There must be no crowding of specimens one behind the other, every one being perfectly and distinctly seen, and with a clear space around it. Every specimen exhibited should be good of its kind, and all available skill and care should be spent upon its preservation and rendering it capable of teaching the lesson it is intended to convey. And here he could not refrain from saying a word upon the sadly neglected art of taxidermy, which continued to fill the cases of most of our museums with wretched and repulsive caricatures of mammals and birds, out of all natural proportions, shrunken here and bloated there, and in attitudes absolutely impossible for the creature to have assumed while alive. Taxidermy was an art resembling that of the painter, or rather the sculptor; it required natural genius as well as great cultivation, and it could never be permanently improved until we had abandoned the present conventional low standard and low payment for "bird-stuffing," which was utterly inadequate to induce any man of capacity to devote himself to it as a profession. Every specimen exhibited should have its definite purpose, and no absolute duplicate should on any account be permitted. Above all, the purpose for which each specimen was exhibited, and the main lesson to be derived from it, must be distinctly indicated by the labels affixed, both as headings of the various divisions of the series, and to the individual specimens. A well-arranged educational museum had been defined as a collection of instructive labels illustrated by well-selected specimens.

THE ORDER TO BE OBSERVED.

What was, or should be, the order of events in arranging a portion of a public musuem? Not, certainly, as too often happened now, bringing a number of specimens together almost by haphazard, and cramming them as closely as possible in a case far too small to hold them, and with little reference to their order or to the possibility of their being distinctly seen. The curator must carefully consider the object of the museum, the class and capacities of the persons for whose instruction it was founded, and the space available to carry out this object. He would then divide the subject to be illustrated into groups, and consider their relative proportions, according to which he would plan out the space. Large labels would next be prepared for the principal headings, as the chapters of a book, and smaller ones for the various subdivisions. Certain propositions to be illustrated, either in the structure, classification, geographical distribution, geological position, habits, or evolution of the subjects dealt with, would be laid down and reduced to definite and concise language. Lastly would come the illustrative specimens, each of which as procured and prepared would fall into its appropriate place. As it was not always easy to obtain these at the time that they were wanted, gaps would often have to be left; but those, if properly utilised by drawings or labels, might be made nearly as useful as if occupied by the actual specimens. A public exhibition which was intended to be instructive and interesting must never be crowded. Every such exhibition, whether on a large or small scale, could only contain a representative series of specimens, selected with a view to the needs of the particular class of persons who were likely to visit the gallery, and the number of specimens exhibited should be adapted to the space available.

THE PUBLIC MUSEUMS OF THE FUTURE.

The ideal public museums of the future would, however, require far more exhibition space than had hitherto been allowed; for though the number of specimens shown might be fewer than was often thought necessary now, each would require more room if the conditions above described were carried out, and especially if it was thought desirable to show it in such a manner as to enable the visitors to realise something of the wonderful complexity of the adaptations which bring each species into harmonious relation with its surrounding conditions. Artistic reproductions of natural environments, illustrations of protective resemblances, or of special modes of life, all required much room for their display. This method of exhibition, wherever faithfully carried out, was, however, proving both instructive and attractive, and would doubtless be greatly extended. As the actual comparison of specimens was the basis of zoological and botanical research, and as work done with imperfect materials was necessarily imperfect in itself, it was far the wisest policy to concentrate in a few great central institutions, the number and situation of which must be determined by the population and the resources of the country, all the collections, especially those containing specimens already alluded to as so dear to the systematic naturalist, known as author's "type," required for original investigations. It is far more advantageous to the investigator to go to such a collection and take up his temporary abode there, while his research was being carried out, with all the material required at his hand at once, than to travel from place to place and pick up piecemeal the information he required, without opportunity of direct comparison of specimens. A local collection, illustrating the fauna and flora of the district, should be part of every such museum; and this might be carried to almost any amount of detail, and therefore in many cases it would be very unadvisable to exhibit the whole of it. A selection of the most important objects might be shown under the conditions described above, and the remainder carefully preserved in cabinets for the study of specialists.

EVOLUTION.

Coming to his other topic, the laws which regulate the evolution of organic beings, problems which agitate the minds of all biologists of the present day, he briefly pointed out the nature of the problems and the lines which the endeavour to solve them would probably take. He said—I think I may safely premise that few, if any, original workers at any branch of biology appear now to entertain serious doubt about the general truth of the doctrine that all existing forms of life have been derived from other forms by a process of descent with modification, and it is generally acknowledged that to the records of the past history of life upon the earth we must look for the actual confirmation of the truth of a doctrine which accords so strongly with all we know of the present history of living beings. Professor Huxley wrote in 1875: "The only perfectly safe foundation for the doctrine of evolution lies in the historical, or rather archæological, evidence that particular organisms have arisen by the gradual modification of their predecessors, which is furnished by fossil remains. That evidence is daily increasing in amount and in weight, and it is to be hoped that the comparisons of the actual pedigree of these organisms with the phenomena of their development may furnish some criterion by which the validity of phylogenic conclusions deducted from the facts of embryology alone may be satisfactorily tested."

THE GRADUAL MODIFICATION OF LIVING FORMS.

Palæontology, however, as we all know, reveals her secrets with no open hand. How can we be reminded of this more forcibly than by the discovery, announced scarcely three months ago, by Professor March, of numerous mammalian remains from formations of the Cretaceous period, the absence of which had so long been a source of difficulty to all zoologists? What vistas does this discovery open of future possibilities, and what thorough discredit, if any were needed, does it throw on the value of negative evidence in such matters! Bearing fully in mind the necessary imperfection of the record we have to deal with, I think that no one taking an impartial survey of the recent progress of palæontological discovery can doubt that the evidence in favour of a gradual modification of living forms is still steadily increasing. Any regular progressive series of changes of structure coinciding with changes in time can, of course, only be expected to be preserved and to come again before our eyes under such a favourable combination of circumstances as must be of most rare occurrence; but the links, more or less perfect, of many such series are continually being revealed, and the discovery of a single intermediate form is often of immense interest as indicating the path along which the modification from one apparently distinct form to another may have taken place. Though palæontology may be appealed to in support of the conclusion that modifications have taken place as time advanced, it can scarcely afford any help in solving the more difficult problems which still remain as to the methods by which the changes have been brought about. Ever since the publication of what has been truly described as the "creation of modern natural history," Darwin's work on the "Origin of Species," there has been no little controversy as to how far all the modifications of living forms can be accounted for by the principle of natural selection or preservation of variations best adapted for their surrounding conditions, or whether any, and if so what, other factors have taken part in the process of organic evolution.

A TENDENCY TO VARY.

It is generally recognised that it is one of the main elements of Darwin's, as well as of every other theory of evolution, that there is in every individual organic being an innate tendency to vary from the standard of its predecessors, but that this tendency is usually kept

under the sternest control by the opposite tendency to resemble them, a force to which the terms "heredity" and "atavism" are applied. The causes of this initial tendency to vary, as well as those of its limits and prevailing direction, and the circumstances which favour its occasional bursting through the constraining principle of heredity, offer an endless field for speculation. Though several theories of variation have been suggested, I think that no one would venture to say we have passed beyond the threshold of knowledge of the subject at present. Taking for granted, however, as we all do, that this tendency to individual variation exists, then comes the question, What are the agents by which, when it has asserted itself, it is controlled or directed in such a manner as to produce the permanent, or apparently permanent, modifications of organic structures which we see around us? Is "survival of the fittest," or preservation by natural selection of those variations, best adapted for their surrounding conditions (the essentially Darwinian or still more essentially Wallacian doctrine) the sole or even the chief of these agents? Can isolation, or the revived Lamarckian view of the direct action of the environment, or the effects of use or disuse accumulating through generations, either singly or combined, account for all; or is it necessary to invoke the aid of any of the numerous subsidiary methods of selection which have been suggested as factors in bringing about the great result? Any one who has closely followed these discussions, especially those bearing most directly upon what is generally regarded as the most important factor of evolution—natural selection, or "survival of the fittest"—cannot fail to have noticed the appeal constantly made to the advantage, the utility, or otherwise of special organs or modifications of organs or structures to their possessors. Those who have convinced themselves of the universal application of the doctrine of natural selection, hold that every particular structure or modification of structure must be of utility to the animal or plant in which it occurs, or to some ancestor of that animal or plant, otherwise it could not have come into existence; the only reservation being for cases which are explained by the principle which Darwin called "correlation of growth." Thus the extreme natural selectionists and the old-fashioned school of teleologists are so far in agreement.

ARE CERTAIN STRUCTURES MANIFESTLY USELESS?

On the other hand, it is held by some that numerous structures and modification of structures are met with in nature which are manifestly useless; it is even confidently stated that there are many which are positively injurious to their possessor, and therefore could not possibly have resulted from the action of natural selection of favourable variations. Organs or modifications when in an incipient condition are especially quoted as bearing upon this difficulty. But here, it seems to me, we are continually appealing to a criterion by which to test our theories of which we know far too little, and this (though often relied upon as the strongest) is, in reality, the weakest point of the whole discussion. Of the variations of the form and structure of organic bodies we are beginning to know something, Our museums, when more complete and better organised, will teach us much on this branch of the subject. They will show us the infinite and wonderful and apparently capricious modifications of form, colour, and of texture, to which every most minute portion of the organisation of the innumerable creatures which people the earth is subject. They will show us examples of marvellously complicated and delicate arrangements of organs and tissues in many of what we consider as almost the lowest and most imperfectly organised groups of beings with which we are acquainted. But as to the use of all these structures and modifications in the economy of the creatures that possess them, we know, I may almost say, nothing, and our museums will never teach us these things. If time permitted I might give numerous examples in the most familiar of all animals, whose habits and actions are matters of daily observation, with whose life-history we are as well acquainted almost as we are of our own, of structures the purposes of which are still most doubtful. There are many such even in the composition of our own bodies. How, then, can we expect to answer such questions when they relate to animals known to us only by dead specimens, or by the most transient glimpses of the living in a state of nature, or when kept under the most unnatural conditions in confinement? And yet this is actually the state of our knowledge of the vast majority of the myriads of living beings which inhabit the earth. How can we, with our limited powers of observation, and limited capacity of imagination, venture to pronounce an opinion as to the fitness or unfitness for its complex surroundings of some peculiar modification of structure found in some strange animal dredged up from the abysses of the ocean, or which passes its life in the dim seclusion of some tropical forest, and into the essential conditions of whose existence we have at present no possible means of putting ourselves in any sort of relation? How true it is that, as Sir John Lubbock says, "we find in animals complex organs of sense richly supplied with nerves, but the functions of which we are as yet powerless to explain. There may be fifty other senses as different from ours as sound is from sight; and even within the boundaries of our own senses there may be endless sounds which we cannot hear, and colours as different as red from green of which we have no conception. These and a thousand other questions remain for solution. The familiar world which surrounds us may be a totally different place to other animals. To them it may be full of music which we cannot hear, of colour which we cannot see, of sensations which we cannot conceive." The fact is, that nearly all attempts to assign purposes to the varied structures of animals are the merest guesses and assumptions. The writers on natural history of the early part of the present century, who "for every why must have a wherefore," abound in these guesses, which wider knowledge shows to be untenable. Many of the arguments for or against natural selection, based upon the assumed utility or equally assumed uselessness of animal and vegetable structures, have nothing more to recommend them. In fact, to say that any part of the organisation of an animal or plant, or any habit of instinct with which it is endowed, is useless, or even injurious, seems to me an assumption which, in our present state of knowledge, we are not warranted in making. The time may come when we shall have more light, but infinite patience and infinite labour are required before we shall be in a position to speak dogmatically on these mysteries of nature—labour not only in museums, laboratories, and dissecting rooms, but in the homes and haunts of the animals themselves, watching and noting their ways amid their natural surroundings, by which means alone we can endeavour to penetrate the secrets of their life history. But until that time comes, though we may not be quite tempted to echo the despairing cry of the poet, "Behold, we know not anything," a frank confession of ignorance is the most straightforward, indeed the only honest position we can assume when questioned on these subjects. However much we may be convinced of the supreme value of scientific methods of observations and of reasoning, both as mental training of the individual and in the elucidation of truth and advancement of knowledge generally, it is impossible to be blind to the fact that we are engaged with the investigation of those subjects which are commonly accepted as belonging to the domain of physical science are unfortunately not always, by virtue of being so occupied, possessed of that most precious gift "a right judgment in all things." No one intimately acquainted with the laborious and wavering steps of scientific progress (I can answer at least for one branch of it) can look upon that progress with a perfect feeling of satisfaction. Can it be said of any of us that our observations are always accurate, the materials on which they are based always sufficient, our reasoning always sound, our conclusions always ligitimate? Is there any subject, however limited, of which our knowledge can be said to have reached finality? For myself, I must own that when I endeavour to look beyond the glass, and frame some idea of the plan upon which all the diversity in the organic world has been brought about, I see the strongest grounds for the belief, difficult as it sometimes is in the face of the strange, incomprehensible, apparent defects in structure, and the far stranger, weird, ruthless savagery of habit, often brought to light by the study of the ways of living creatures, that natural selection, or survival of the fittest, has, among other agencies, played a most important part in the production of the present condition of the organic world, and that it is a universally acting and beneficent force continually tending towards the perfection of the individual, of the race, and of the whole living world. I can even go further, and allow my dream still thus to run—

"Oh, yet we trust that somehow good
Will be the final goal of ill—
That nothing walks with aimless feet,
That not one life shall be destroyed
Or cast as rubbish to the void
When God hath made the pile complete.

* * * *

SECTION OF BIOLOGY.

President's Address.—At the first meeting of the section on Thursday, September 12th, the President (Professor J. S. Burdon Sanderson) was prevented by illness from being present. His address was accordingly read by Canon Tristram, one of the Vice-Presidents. In it Dr. Burdon Sanderson said it had long ceased to be possible in the course of an annual address to give an account even of the most important advances made in biology during the preceding twelve months. This was due partly to the vast dimensions of each of the various branches of knowledge included under the term biology, and partly to the increasing divergence between morphology and physiology. From this sundering of sciences which were till recently intimately united physiology chiefly suffered. The physiologist had first to determine what were the chemical and physical endowments of living matter in general, and of each of the varieties thereof which

constituted the animal and plant organism in particular. Then he had to determine how these processes were localised so as to constitute the special function of each structure, and the relation between structure and function in each case. Physiology first studied man and the higher animals, and proceeded to the higher plants, then to invertebrates and cryptogams, ending where development began. From the beginning, her aim had been to correlate function with structure, the principle being that every appreciable difference of structure corresponded to a difference of function; and, inversely, that each endowment of a living organ must be explained as springing from its structure. As function was more complicated than structure, the result of that method must be to bring investigators face to face with functional differences which had no structural differences to explain them. They would in each case come to this issue—plurality of function with unity of structure, the unity being represented by a simple structural element, whether it was retinal cone or cell, possessed of numerous endowments. Structure must at that point cease to be a guide, and two alternatives were then open, namely, to fall back on "that worn out *deux ex machinâ* protoplasm," as if it afforded an explanation of everything which could not be explained otherwise; or to use analyses of function as a guide to the ultra-microscopical analysis of structure. The first of these courses was wrong, the second right, for in following it the fundamental principal was still adhered to that living material acted by virtue of its structure, using that term in a sense which carried it beyond the knowledge that could be gained either by the scalpel or the microscope. It might be anticipated that the future of physiology would differ from the past chiefly in this respect—that histology, once the guide of physiology, had now become her handmaid. The President went on to say that the questions which at present most urgently demanded solution in physiology were those relating to the endowments of apparently structureless living matter. With this view, what had to be done was first to select those cases in which the vital process offered itself in its simplest form; and secondly, to inquire how far in these particular instances—under the guidance of that fundamental principle, the correlation of structure with function, of mechanism with action—inferences might be drawn as to the mechanism by which these vital processes were carried out. The most distinctive property of living matter as compared with non-living was that it was ever changing while ever the same; in other words, life was a ceaseless change. Two kinds of change must be distinguished, both equally characteristic of living organisms—namely, those of growth and decay, and those of nutrition. Growth belonged rather to morphology, and he proposed to speak only of the other kind of change which included all other vital phenomena. The term "nutrition" expressed this very inadequately. "Exchange of material" had been used for half a century to designate the sum of the non-developmental activities of an organism; for this Professor Foster had given the very acceptable substitute, "metabolism." Seen from the morphological point of view, the whole plant and animal kingdom constituted the unfolding of a structural plan which had been once latent in the form of living material of great apparent simplicity. From the physiological side, this apparently simple material was seen to be capable of the discharge of functions of great complexity, and therefore must possess corresponding complexity of mechanism. It was the nature of this invisible mechanism that philosophy thirsty to know. Although little progress had yet been made, the existing knowledge of the subject had so far taken consistent form in the minds of the leaders of physiological thought, that it was possible to distinguish the direction in which the soberest speculation was tending. The non-developmental vital functions of protoplasm were the absorption of oxygen, the discharge of carbon dioxide and water and ammonia, the doing of mechanical work, the production of heat, light, and electricity. All these, except the last, were known to have chemical actions as their inseparable concomitants. The president next discussed the relation of oxygen to living matter and vital process, and went on to say that the word "life" was used in physiology in a technical sense, as denoting a state of change with permanence. In this restricted sense the question "What is life?" was one to which the answer was approachable; but in a higher sense—higher because it appealed to higher faculties in our nature—the word suggested something outside of mechanism, which might perchance be its cause rather than its effect. Thirty years ago the discovery of the cell as the basis of vital function was new, and the mystery which before belonged to the organism was transferred to the unit, which, while it served to explain everything, was itself unexplained. The discovery of the cell seemed to be a very close approach to the mechanism of life; but now they were striving to get even closer, and with the same result. If what he had said was true, there was little ground for apprehension that the habit of scrutinising the mechanism of life tended to make men regard what could be learned as the only kind of knowledge. The tendency was certainly rather in the other direction. What had to be guarded against was the mixing of two methods, and, so far as physiologists were concerned, the intrusion into their subject of philosophical speculation. "Let us, said Dr. Burdon Sanderson in conclusion, "willingly and with our hearts do homage to 'divine philosophy,' but let that homage be rendered outside the limits of our science. Let us, if we are so inclined, cross the frontier and philosophise; but for my part, as a physiologist, I feel more disposed to do my best to furnish professed philosophers with such facts relating to structure and mechanism as may serve them as aids in the investigation of those deeper problems which concern man's relations to the past, the present, and the unknown future.

SECTION OF ANTHROPOLOGY.

Examinations in Bodily Efficiency.—The proceedings in this Section commenced with the reading of a paper read by Mr. Francis Galton, F.R.S., "On the Advisability of Assigning Marks for Bodily Efficiency in the Examinations of Candidates for the Public Services." Mr. Galton said he did not refer in any way to the pass examinations now made by medical men in order to eliminate candidates who were physically unfit. The reform asked for was to give additional marks to those youths who, being fit for service, were at the same time exceptionally well fit so far as bodily efficiency was concerned. The view that literary examinations were indirect tests of bodily efficiency could be shown to be erroneous. Various measurements of Cambridge students had been made during the last two or three years by Dr. Venn, F.R.S. The number of those who were measured was 1,095, and they were divided into three classes—(1) high-honour men; (2) low-honour men; (3) poll men—that was to say, those who did not compete for honours, but took an ordinary pass degree, The result was that the physical efficiency of the three classes proved to be almost exactly the same, except that there appeared to be a slight deficiency in eyesight among the high-honour men. Otherwise they were alike throughout: alike in their average bodily efficiency, and alike in the frequency with which different degrees of bodily efficiency were distributed among them. It seemed, therefore, to be most reasonable whenever two candidates were almost on a par intellectually, though one was superior physically, that the latter should be preferred. The tests would include measures of strength, breathing capacity, agility or promptness, keenness of eyesight and of hearing. Mr. Galton also read a paper "On the Principle and Methods of Assigning Marks for Bodily Efficiency," in which he gave details of the mode of physical examination proposed.

President's Address.—The President, Sir William Turner, M.B., F.R.S., Professor of Anatomy in the University of Edinburgh, then delivered an address on "Heredity." After some introductory remarks, he said that by heredity he meant that special property through which the peculiarities of an organism were transmitted to its descendants throughout successive generations, so that the offspring, in their main features, resembled their parents. The first aspect of the question which had to be determined was whether any physical basis could be found for heredity. Was there any evidence that the two parents contributed each a portion of its substance to the production of the offspring, so as to establish a physical continuity between successive generations? The careful study, especially during the last few years, of the development of a number of species of animals mostly, but not exclusively, among the invertebrata, had established the fact that the young animal arose by the fusion within the egg or germ-cell of an extremely minute particle derived from the male parent, with an almost equally minute particle derived from the germ-cell produced by the female parent. These particles were technically termed in the former case the male pronucleus, in the latter the female pronucleus, and the body formed by their fusion was called the segmentation nucleus. It required the higher powers of the best microscopes to see these nuclei and follow out the process of conjugation. The pronuclei and the segmentation nucleus were, however, complex both in chemical and molecular structure. From the segmentation nucleus produced by the fusion of the pronuclei with each other, and from corresponding changes which occurred in the protoplasm of the egg which surrounded it, other cells arose by a process of division, and these in their turn also multiplied by division. These cells arranged themselves in course of time into layers, which were termed the germinal or embryonic layers. From these layers arose all the tissues and organs of the body, both in its embryonic and adult stages of life. The starting point of each individual organism—that is, of each new generation—was therefore the segmentation nucleus. Every cell in the adult body was derived by descent from that nucleus through repeated division. As the segmentation nucleus was formed by the fusion of material derived from both parents, a physical continuity was established between parents and offspring. But this physical continuity carried with it certain properties which caused the offspring to reproduce

not only the bodily configuration of the parent, but other characters. In the case of man, along with the family likeness in form and features, there was a correspondence in temperament and disposition, in the habits and mode of life, and sometimes in the tendency to particular diseases. By the continual process of division of the cells the substance of the segmentation nucleus was diffused throughout the body of the new individual produced through its influence, so that each cell contained but an infinitesimal particle of it. The parental dilution, if he might say so, was so attenuated as to surpass the imagination of even the most credulous believer in the attenuation of drugs by dilution; and yet these particles were sufficient to stamp the character of the parents, of the grandparents, and of still more remote ancestors on the offspring, and to preserve them throughout life. It was not every cell in the body that could act as a centre of reproduction for a new generation; certain cells, named "germ-cells" and "sperm-cells," were set aside for that purpose. These cells, destined for the production of the next generation, formed but a small proportion of the body of the animal in which they were situated. They were, as a rule, marked off from the rest of the cells of its body at an early period of development. The exact stage at which they became specially differentiated for reproductive purposes varied, however, in different organisms. The germ-cells, after their isolation, took no part in the growth of the organism in which they arose, and their chief association with the other cells of its body was that certain of the latter were of service in their nutrition. The problem, therefore, for consideration was the mode in which these germ or reproductive cells became influenced, so that after being isolated from the cells which made up the bulk of the body of the parent, they would transmit to the offspring the characters of the parent organism. After referring to the theories of Darwin and F. Galton on the subject, Professor Turner said that intimately associated with the conception of heredity was that of variability. Heredity might be defined as the perpetuation of the like; variability as the production of the unlike. It might be asked, Was it possible to offer any feasible explanation of the mode in which variations in organic structure took their rise in the course of development of an individual organism? Certain facts might be adduced as offering a basis for the construction of an hypothesis. Prior to the conjugation of the male and female pronuclei to form the segmentation nucleus a portion of the germ-plasm was extruded from the egg to form what were called the polar bodies. Weismann explained this curious phenomenon on the hypothesis that a reduction of the number of ancestral germ-plasms in the nucleus of the egg was a necessary preparation for fertilisation, and for the development of the young animal. He supposed that by the expulsion of the polar bodies one-half the number of ancestral germ-plasms was removed, and that the original bulk was restored by the addition of the male pronucleus to that which remained. As precisely corresponding molecules of this plasm need not be expelled from each ovum, similar ancestral plasms were not retained in each case; so that the diversities would arise even in the same generation and between the offspring of the same parents. The segmentation nucleus was not a homogeneous structureless body, but was built up of different parts. Most noteworthy were the extremely delicate threads or fibrils, called chromatin filaments, which were either coiled on each other or intersected to form a network-like arrangement. In the meshes of this network a viscous—and, so far as was yet known, structureless—substance was situated. Before the process of division began in the segmentation nucleus these filaments swelled up and then proceeded to arrange themselves at first into one and then into two star-like figures before the actual division of the nucleus took place. It was obvious, therefore, that the molecules which entered into the formation of the segmentation nucleus could move within its substance, and undergo a readjustment in size, and form, and position. But this readjustment of material without doubt applied to the entire molecular structure of the segmentation nucleus. As the cells of the embryo, from which all the tissues and organs of the adult body were derived, were themselves descendants of the segmentations nuclei they would doubtless inherit from it both the power of transmitting definite characters and a certain capacity for readjustment both of their constituent materials and their relative positions towards each other. One might conceive, therefore, that if in a succession of organisms derived common ancestors the molecular particles were to be of the same composition and to arrange themselves in the segmentation nucleus and in the cells derived from it on the same lines, these successive generations would be alike; but if the lines of adjustment and the molecular constitution were to vary in the different generations, then the products would not be quite the same. Variations in structure, and to some extent also in the construction of parts, would arise, and the unlike would be produced. Moreover, in the higher organisms, and in multicellular organisms generally, an individual was derived, not from one parent only, but from two. Weismann emphasized this combination as the cause of the production of variations and the transmission of hereditary individual characters. If the proportion of the particles derived from each parent and the forces which they exercised were precisely the same in any individual case, then one could conceive that the product would be a mean of the components provided by the two parents. But if one parent were to contribute a larger proportion than the other to the formation of a particular organism, then the balance would be disturbed, the offspring in its character would incline more to one parent than to the other, according to the proportion contributed by each, and a greater scope for the production of variations would be provided. These differences would be increased in number in the course of generations, owing to new combinations of individual characters arising in each generation. As variations, when once they had arisen, might be hereditarily transmitted, the Darwinian theory might be defined as heredity modified by variability. Many variations which might arise in the development of an individual, and which were of service to that individual, would tend to be preserved and perpetuated in its offspring by hereditary transmission. On the other hand, variations which were useless or even detrimental to the individual were also capable of being hereditarily transmitted. Several striking instances of congenital defect or malformation thus handed down from generation to generation were adduced, and the transmission of a tendency to particular disease, such as tuberculosis, cancer, gout, rheumatism, and hæmophilia, was alluded to. In the transmission of deformity or disease, consanguinity in the parents was an important, though by no means constant, factor.

If both parents were physiologically perfect, it might be expected that the offspring would also be so, but should both be physiologically imperfect, it might be anticipated that the imperfections, if of a like nature, would be intensfied in the children. In this lay the risk of consanguineous marriages, for no family could lay claim to physiological perfection. With reference to the transmissibility of characters which had been "acquired" by the parent, that term had not always been used with the same signification. In its wider meaning it might cover all the characters which made their first appearance in an individual, and which were not found in its parents, in whatever way they had arisen; first, whether their origin were due to such molecular changes in the germ-plasm as might be called spontaneous, leading to such an alteration in its character as might produce a new variation; or, secondly, whether their origin were accidental, or due to habits, or to the nature of the surroundings, such as climate, food, etc. Characters produced in the germ-plasm itself and all other characters resulting from this latter cause, Weismann named "blastogenic;" characters first appearing in the body itself and following from the reaction of the soma under direct external influences, he termed "somatogenic," and he suggested that to those the term "acquired characters" should be restricted. Under the latter head were included the effects of mutilation, the changes which followed from increased or diminished performance of function, those directly due to nutrition, etc. Weissmann maintained that all blastogenic characters could be transmitted, while the somatogenic could not. Sir William Turner agreed with much that had been said by Weismann, as to the want of sufficient evidence to prove that mutilation in the parent could be transmitted to the offspring. He would, however, search for illustrations of the transmission of somatogenic characters in the more subtle processes affecting living organisms rather than in those produced by violence. All biologists would, he thought, agree that the soma was influenced or modified by its environments. If modifications so produced were capable of so affecting the germ-plasm of the individual in whom the variation arose as to be transmitted to its offspring, then such variations might be perpetuated. He could not accept the proposition that somatogenic characters were not transmitted, and he thought they formed an important factor in the production of hereditary characters. By accepting this theory, a more ready explanation could be obtained how men belonging to a race living in one climate or part of the globe could adapt themselves to a different climate. On the theory of the non-transmissibility of acquired characters, long periods of years would have to elapse before the process of adaptation could be effected. It was known, however, that this was not necessary to produce a race possessing well recognisable physical characteristics. In proof of this, the example of the citizens of the United States was referred to. Sir William Turner concluded by saying that whatever might have been the origin of man's frame, whether by evolution from some animal form or otherwise, it could scarcely be expected ever to attain greater perfection than it at present possessed. Man, however, was also endowed with a spiritual nature, and the kind of evolution which was to be hoped and striven for was the perfecting of this spiritual nature, so that the standard of the whole human race might be elevated and brought into more harmonious relation with that which was holy and divine.

Development of Wisdom-teeth.—A paper on this subject by Dr. R. Levi was read, in the absence of the author, by Dr. J. G. Garson. In January and December, 1885, and in November, 1886, when inspecting the conscripts born in the years 1864, 1865, and 1866, in the military districts of Monza (Lombardy) and Ancona (Marche), he noted the development of the wisdom-teeth. The total number of individuals examined was 732—namely, 366 natives of the military district of Monza (Lombardy), and 366 of the military district of Ancona (Marche). Their average age was twenty years and five months. The two groups were divided as follows in regard to the number of the wisdom-teeth:

Number of the Wisdom-teeth.	Lombards.			Marchigiani.			Total.		
	Number of cases.	Proportion per cent.	Total of wisdom-teeth.	Number of cases.	Proportion per cent.	Total of wisdom-teeth.	Number of cases.	Proportion per cent.	Total of wisdom-teeth.
0	173	47.3	..	155	42.4	..	328	44.8	..
1	43	11.7	43	48	13.1	48	91	12.4	91
2	61	16.7	122	67	18.3	134	128	17.5	256
3	30	8.2	90	22	6.0	66	52	7.1	156
4	59	16.1	236	74	20.2	296	133	18.2	532
Total	366	100.0	491	366	100.0	544	732	100.0	1,035
Average number of wisdom-teeth in each individual.	1.34			1.49			1.41		

The small number of individuals who had an odd number of wisdom-teeth was pointed out. This was evidently a consequence of the fact that the wisdom-teeth appeared generally two by two.

Left-Leggedness.—Dr. W. K. Sibley read a paper in which he argued that man was naturally left-legged. Standing working with the right hand, there was a tendency to balance on the left leg. Race paths were nearly always made for running in circles to the right, and the majority of movements (such as dancing, running, etc.) were more readily performed to the right. In walking, it was natural to bear to the right; crowds as well as individuals did so. Troops started off with the left foot; the left foot was placed in the stirrup or step of the bicycle in mounting; the left foot was the one from which a man took off in jumping. From measurements made by Dr. Garson of the skeletons of the two legs, in 54.3 per cent. the left leg was the longer, and in 35.8 the right. From measurements of 200 pairs of feet, it was found that in 44 per cent. the left, and in 21.5 the right was longer, while in 34.5 they were equal.

THE BRITISH PHARMACEUTICAL CONFERENCE.

The Presidential Address, by C. Umney, F.I.C., F.C.S., etc.

It was at Newcastle, after the meeting of the British Association in 1863, that a few leading pharmacists met with the object of inaugurating an annual Pharmaceutical Conference. At this first meeting the desirability of having at intervals an opportunity of conferring upon matters of interest and importance to pharmacists was shown, and it was thought that a stimulus to intellectual exertion would be given by the prospect of periodical gatherings, and that many who had time and opportunity for research would be induced to contribute papers, while the majority when associated would look forward to an annual gathering as an opportunity of good fellowship.

We are indebted to Schacht for the idea of our annual Conference; to Attfield, Brady, and Reynolds for our excellent organisation; and to the indefatigable secretaries for the success of our annual meetings through a series of years. Reference to the list of members who have been called to the presidential chair reminds me not only of the honour you have done me in electing me to this office, but fills me with misgivings lest I should unworthily occupy the post which has been so ably filled by my predecessors. It is to be regretted that death removed some of our presidents while capable of active work, but gratifying to know that their labours live after them, and that their published researches are ornamental to our "Year-Books of Pharmacy," and of great practical value to medicine and commerce. Presidents Deane, Hanbury, Stoddart, Southall, and Williams took the greatest interest in this Conference, and other presidents who are happily among us to-day, as well as those who are absent, are still in sympathy with this association and its objects. We who have seen the "blue ribbon" that it is customary for the Royal Society to confer on workers in science, given to some of our past presidents, have reason to feel proud of the distinction conferred upon pharmacy through them.

Your late president, when speaking at Bath of the "silver wedding" of the Conference, had a most felicitous topic. I am fortunate in having what should prove an attractive occasion, one indeed which should enlist an enthusiasm equal to that of last year's meeting, arising out of the fact that it was in this very town twenty-six years ago that the British Pharmaceutical Conference had its birth.

"Breathes there a man, with soul so dead,
Who never to himself hath said,
This is my own, my native land!"

The Conference, as you are aware, has met in many important cities and towns in England, Scotland, and Ireland, and on this occasion we are responding to an invitation given twenty-six years ago, when Brady expressed his satisfaction that Newcastle had had the privilege of receiving the first meeting of the Conference, and promised a hearty welcome whenever its members were again disposed to visit his town. Those good friends I see around me to-day evidently had not forgotten the past, and thus it was that at Bath their colleagues said, "that the heart of Newcastle beat with parental affection to the Conference," and, as if to remind us of the geographical position of their town, and to entice our North British friends to come over the border, they said—

"Better loved ye canna be,
Will ye no come back again?"

The subjects upon which my predecessors have addressed you have been most varied. Some presidents reviewed researches in those sciences having a direct bearing upon pharmacy which had been published during their year of office; others spoke to you upon pharmaceutical ethics and politics: some upon revision of the British Pharmacopœia; while others directed your attention to the study of some particular science upon which they spoke as experts. In casting about for a topic upon which I might address you, I came to the conclusion that one of the articles of association of the British Pharmaceutical Conference, agreed to in this town in 1863—viz., "*That one object of the Association should be to maintain uncompromisingly the principle of purity of medicine*," would not be an impropriate theme on which one might say something concerning our every day life that would lead to fresh lines of thought, and such a modelling of our ideas and actions that might tend to make us more accomplished pharmacists and not less successful men of business.

In the days when sophistication was rampant, there were to be found a few at any rate who prized the judicious selection of substances for use in medicine. That the choice was not always used and approved by the physician is shown by the history of the conflicts between physician and apothecary as far back as the reign of Henry VIII., when physicians were empowered to "search, view, and see the apothecaries' wares, drugs, and stuffs," and to destroy such as they found unfit for use. This power eventually passed from the hands of the physicians to the Society of Apothecaries, who separated themselves from the grocers with whom they were by charter incorporated, and against whom they made bitter complaints on account of the frauds that the latter would persist in practising.

To remedy this evil, in the year 1623 the Society of Apothecaries founded an institution for the purpose of making some of the most important preparations for the use of their own members, and although at first operations were on a small scale, being confined to the manufacture of a limited number of preparations, their products were gradually increased both in number and quantity, and eventually we find two centuries later this institution in the foremost rank as producers of medicines of a high standard of purity.

The medicinal compounds in vogue in the seventeenth century were chiefly empirical nostrums or mixtures of substances, some of which neutralized others; and compounding prescriptions and manufacturing medicines was carried on without any reference to scientific principles. While it is true that prior to the organisation of the Society of Apothecaries, two editions of the London Pharmacopœia were published, still the science of chemistry had so little advanced, that it was not until about the time of the tenth edition of the London Pharmacopœia that there was any real knowledge of manufacturing pharmacy.

The signs of the times were not without their lesson to some keen business men in the early part of this century, for it became obvious that traffic in drugs, whether in the condition as imported, powdered, or manufactured into galenicals, might in the future be more successfully carried on by due regard being paid to purity.

There was a new departure, and London wholesale druggists were not handicapped in their start, for their city was the drug market of the world, and the importation and sale of raw drugs had given them great and pecuniary profit. The dissatisfaction of the compounders of medicines no doubt gave rise to this new departure, for the continued complaints of the physician made them aware that for anything other than crude or garbled drugs, but little reliance could be placed in the wholesale druggist, and thus it was, notwithstanding mechanical

appliances were vastly improved for pulverization and other processes, the dispenser had to produce his powders by pestle and mortar if the physician's prescriptions were to be reliably dispensed.

Now in those days it was the practice of the wholesale druggist to send his drugs to a drug miller, who, it is to be regretted, was not so scrupulous of the purity of his products as are the firms who carry on similar businesses to-day, and it is certain, moreover, that the wholesale druggist set a bad example to the miller, for it was not an uncommon practice (as I was once informed by a wholesale druggist who was in business at the end of last century) to send comparatively inert substances to the mill to be ground and mixed with potent drugs.

Early in this century guaranteed powdered drugs were introduced in trade by Thomas Herring, who claimed that his soft, impalpable, bright looking vegetable powders were as pure as the unsightly powders that compounders were then producing for themselves by pestle and mortar. Others followed upon parallel lines with marked success, and the good example of several well-disposed men, striving for excellence, was one of the important steps which have been instrumental in producing the purity, uniformity and perfection so generally to be met with in the powdered drugs of to-day.

Compounded medicines at this period consisted largely of galenicals; and notwithstanding chemical substances were used in medicine, their preparation was imperfectly understood. Chemical science, it is true, had already started on its triumphant march, for Phillips, when reviewing the Pharmacopœia of his time, wrote most ably thirty pages upon the preparations of antimony. Tricks were resorted to in the adulteration of simple chemical substances which leave but little doubt that notwithstanding there was a want of chemical knowledge and manipulative skill, there was no lack of deliberate intention to defraud.

The success attendant upon the production of pure powdered drugs was an incentive to some of our historic houses, and it came about that not only were chemical substances prepared with due regard to their medicinal purity on a larger scale than heretofore, but organic novelties such as quinine, morphia, strychnia, which were now finding uses in medicine, were produced on a manufacturing scale of purity, which, considering the chemical knowledge of the manipulators, was highly creditable. For half a century prior to our first Conference a gradual but steady advance in the direction of purity for medicinal substances was made, and the pharmacists of 1863 did not fail to take cognizance of this; moreover, they saw that the sphere of their labours was being constantly enlarged, and if pharmacy in the future was in any way to be a credit then their work as chemists and pharmacologists must be unceasing.

Since the first Newcastle meeting the rival pharmacopœias of London, Edinburgh and Dublin have been fused into a national pharmacopœia. This has been advantageous in helping forward and maintaining uniformity and purity in medicine. Those of us who have been in harness during the publication and use of three or four pharmacopœias know the effect a well revised edition has upon the commercial standard of crude and manufactured drugs. The British Pharmacopœia, 1885, is an excellent type of what such a book should be, for it adopts a standard that ensures efficiency, and does not attempt to introduce rare and exceptional quality that is only occasionally obtainable to the exclusion of that which is to be had of uniform excellence without difficulty.

There is perhaps no work upon which an expert has to use his judgment with so much tact and skill, so that he may keep both in touch and tune with the medical profession, the pharmacist, the drug merchant and manufacturer, as when he is called upon to edit a national pharmacopœia. He may be misled by statements based on imperfect information, or defective manipulation, and he cannot in all cases obtain facilities for checking the accuracy of published results. The suitable editing of a pharmacopœia becomes apparent when the editor, knowing the requirements of the medical profession and the capabilities of pharmacists and manufacturers, adopts standards and frames "characters and tests" which are acceptable to all concerned, and this without in any degree imperilling that principle which this Association has at heart—viz., to maintain, without compromise, the purity of medicine.

Pharmacists should do all in their power not only when in their own business premises, but also in their public and private capacities, etc., to impress upon the public that household remedies should invariably be purchased of a similar strength and quality to those medicines physicians direct to be used in compounding their prescriptions. If pharmacists would thus aid in educating the public they would rid themselves of much outside competition in which weaker and inferior preparations are sold in lieu of the preparations of a higher standard vended by themselves; and this might be done quite apart from the question as to whether, legally, it is compulsory to retail British Pharmacopœia preparations or not.

Is it not also desirable that pharmacists should cöoperate with the Medical Council in their desire to make the British Pharmacopœia preparations legal for sale, and those of old pharmacopœias obsolete illegal? In my opinion it is most desirable. The Sale of Food and Drugs Act has materially aided in maintaining and advancing purity in medicine. As a rule it is a thankless and almost hopeless task to make communities good by Act of Parliament, and oftentimes the striving of the few will act more beneficially as an incentive to the attainment of a higher standard than any coercion that can be devised. There is a residuum, nevertheless, holding either different or no definite views that prefers not to take action unless under compulsion.

This must have been true in reference to traffic in medicines in the past, or "Drugs" would not have been tacked on to the Sale of Food Act, and our business signalled out as one in which it was necessary that supervision should be exercised for the public good. The working of this Act, in so far as it concerns the drug trade, has not been without friction, due in many cases to the imperfect knowledge of officials, but the novelty now having passed away and the superabundant zeal toned down to a reasonable pitch, only those cases are heard of which indicate fraud on the public. One often wonders when one reads of the number of samples of drugs that have been purchased for chemical examination, most of which seem to turn out satisfactorily, judging from the absence of prosecutions, whether in all districts the analysts are so conversant with the characters and tests commerce of drugs as to enable them to efficiently test substances submitted to them, or to advise the authorities when prosecutions should be unflinchingly carried out, or not instituted.

The highly-trained pharmacist has neither sought nor obtained the post of public analyst in anything like the number of instances he should have done. It may be that, notwithstanding his acquaintance with pharmacy, he lacks chemical and microscopical skill. If this be so, more complete instruction should be given in these subjects, and students should give themselves up to systematic instruction for a period of two or three years at least, otherwise they cannot expect to become competent to fill the post of public analyst. Possibly the clause in the Sale of Food and Drugs Act, which provides that no person shall be appointed as analyst for any place who shall be engaged directly or indirectly in any trade or business connected with the sale of food or drugs in such place, has prevented pharmacists from seeking the appointment, obviously they are at a disadvantage as compared with professional men under this regulation. Surely there cannot be two opinions upon the desirability of impressing the public that the trained pharmacist is not on the same dead level as the traders with whom he is surrounded, and with whom in selling simple commodities he has unfortunately to compete. Could any better indication of the superiority of his training, and a fitness for the confidence of the public be found than his appointment as public analyst?

The public is not slow in taking note, and would not fail to observe that similar appointments were held by medical practitioners, and such observation would in due course necessarily tend to the better recognition of the pharmacist as an educated man, for whose superior knowledge even in trading it would rather pay an extra fee, as compared with the drug grocer who had no information to part with.

It is none the less true now than it was at the commencement of this century, that in order to guarantee one's manufactures there is nothing compared with the simplicity of producing them for oneself.

The regulations with which the Excise have surrounded our manufactures, and which are unequalled in number and stringency in any country in Europe, have been thought necessary in the past in order that the duty upon alcohol may the more easily and accurately be collected. This impost has produced a depressing effect upon the manufacturing pharmacy of this country, which cannot have advanced either the purity of medicine, or our position commercially. For England to have been compelled to purchase in the markets of Germany her alcoholic medicinal preparations, which the exigencies of her trade required should be exported in bond to her colonies and elsewhere, was most humiliating.

We were more to blame than those who continued this part of our fiscal system, inasmuch as we submitted to the yoke for years without complaining or moving in our own interest, and, as a matter of fact, until recently the authorities were not aware that the manufacturer of medicines had any grievance to be redressed.

Happily, within the past year, on account of the broader views prevailing, and the interest taken in our work by the practical men at the head of the Inland Revenue department, there has been an amendment, and the excise regulations which so trammelled us in the past have now to some extent been removed, and at last there is an opportunity of producing most of our alcoholic medicinal preparations, with permission to export them under suitable drawbacks. These concessions will be of commercial value, and the manufacturing pharmacist will have an opportunity in the future of guaranteeing that his products are what they profess to be, and the standard of purity in medicine will thereby be legitimately maintained and advanced.

The Board of Inland Revenue has taken a good work in hand and it must not look back.

England produces chloroform, ether, and other substances from alcohol without opportunity of competing with Germany and other countries, for the Excise take no account of the heavy pecuniary loss entailed in manufacturing such liquids from duty-paid alcohol, and give no rebate either for loss, or for duty, to the manufacturer on exportation.

Why England should be driven to Germany and elsewhere for so many of its alcohol derivatives, of which hydrate of chloral is an excellent type, and why alkaloids, as atropine, veratrine, aconitine, and a legion of other preparations should be imported to the detriment of our trade, and the demoralization of our rising chemists and pharmacists as manufacturers, I cannot conceive.

In my opinion, alcohol free of duty for medicinal purposes, or some facility to work with pure alcohol under supervision, is a most serious and urgent necessity. We are surely all desirous that we may not continue mere purveyors of potent remedies, but that we may be producers also, with a complete knowledge of the products we handle, whether as dispensers or traders. There should be no attempt in the direction of obtaining concessions from the Inland Revenue that are impracticable. The department has recently shown a desire to aid rather than to hamper our manufactures, and there must not now be permitted, even if it should be wished, any lethargy or retrograde movement. Did not Germany for years take tea (valueless for dietetic purposes) out of our bonded warehouses without paying duty, and extract caffeine therefrom, selling it to the world, England included? and has it not been from recent concessions of our Customs authorities that we (thanks to the agitation of a shrewd business man) are now in a position to manufacture caffeine as advantageously as our continental opponents?

The late President of the Chemical Section of the British Association referred at the Bath meeting to the decline of chemistry in this country. While I am not in a position to give an opinion on this subject, as a whole, I fully concur in Professor Tilden's views in so far as the study of chemistry and its application to the manufacture of substances for use in medicine is concerned.

If one seeks the reason why in medicine this has come about, when a generation ago England was quite abreast of other nations in the production of inorganic and even organic medicinal substances, one can only come to the conclusion that something must have militated against advancement. In my opinion two causes at least have been at work—viz., the stringent regulations with which we have been hemmed in by the Excise, and the meagre opportunities of education in research that have, up to a very recent date, been afforded in this country.

Our historic drug houses, who have always acted more or less as manufacturers, have, much to their own detriment, neglected research. Each establishment should have had its chemist engaged in the chemical examination of new remedies for the discovery of active principles, etc., which must have tended to have kept us out of the arms of foreigners for most of our alkaloids and other organic substances now in such increasing demand in medicine.

Manufacturers may state that had men educated for such purposes been forthcoming, they would have gladly embarked capital, with the objects of research and manufacture in view, rather than have remained apathetic; and to some extent this is true. In the future, however, such an excuse ought not to hold good, inasmuch as the Pharmaceutical Society has, at a considerable cost, equipped a research laboratory, which should, before this century closes, produce many men competent to undertake research and manufacture.

There should be no lack of students in the Society's research laboratory. Applications should outnumber vacancies, and men when trained need have but little fear of a demand for their skilled labour.

The Pharmaceutical Society has not unlimited funds, and its moneys cannot all be spent to aid research, but "ways and means" would be no barrier if men were forthcoming.

Let this laboratory be in such demand that there be no vacancies, and the research of such a nature as to be of benefit to medicine and pharmacy, and I have but little doubt that the good friends who honour us by delivering annual addresses to our students, and who hold positions in the House of Commons, our universities, and elsewhere, would co-operate to obtain pecuniary aid in furtherance of our object, and it is not at all likely that our rich city companies, who do so much for education, endow scholarships and vote funds for special researches connected with medicine and surgery, would stand aloof.

One would imagine, if one did not know to the contrary, that we were all agreed upon the desirability of a good scholastic and scientific education, backed by business training for those who practise pharmacy. In my opinion no simpler method can be devised in aiding pharmacists as a body to maintain the excellent principles of this Association, as this thorough training, accompanied by the higher education of some in its ranks in research.

It is quite certain that the pioneers of the British Pharmaceutical Reference had not two opinions on this point, and while it is true that few of the black clouds which threaten us as a trade to-day had gathered in their time, still the path is now, as then, in the direction of education, and I hold that our juniors must have every facility for such a training and thorough education in all those sciences having a direct bearing on pharmacy, as will enable them to take up their proper position with the medical profession and the public. It was not required of the men who met at Newcastle, in 1863, that they should prove their qualification by the possession of the Pharmaceutical Society's diploma. In those days there were no compulsory examinations, as you are aware.

Examinations are not an unmixed blessing, subject as they are to no inconsiderable abuse, and the craze to pass examinations against time has created a state of things which may in the end prove anything but a boon to the pharmaceutical body of the future. It is to be feared that if the students of to-day where asked why they studied, that by far the larger proportion would be bound to acknowledge that they were only occupied in cramming into themselves in the most rapid and easy fashion the minimum amount of information that would help them to pass their examination.

One cannot help regretfully remarking upon this abuse of education, and the failure of the majority to thirst after knowledge for its own sake. When one reminds the average modern student that "knowledge is power," he seems sceptical, and often replies that the information obtained in pharmacy is much too narrow in its scope to lead to reward, and he invariably treats with indifference statements that may be made in reference to the influence that applied chemical and botanical knowledge has upon the world's commerce. He fails to grasp the lessons that are to be found on all sides, and only the thoughtful few are impressed when one gives palpable examples, with the object of proving the marvellous effect science has upon commerce.

The pharmacists of Newcastle can point with sorrow to a vast industry of the Tyne which has been partially dislodged and well nigh ruined, solely a result of applied chemical knowledge. I refer to the manufacture of alkali by the Leblanc method and its present production by the ammonia process. Since the time also when the Conference held its first meeting in this town, and at which period our supplies of cinchona were drawn almost wholly from the South American Continent, what a change has come about.

Who could have thought when botanists and planters experimented in Ceylon, the Nilgiris and Java, that in less than one short generation we, who at one time contemplated a cinchona famine, should now be constantly heard to say, "Hold—enough?" Are not these good illustrations of the working of science? Examples might be multiplied and men named to show that the able pharmacologist can leave footprints that extend not only to medicine, but also to commerce. Did not Daniel Hanbury make an indelible mark? Those who knew this past President of our Association are aware that "Pharmacographia," compiled, as it was, after years of laborious research (looked upon as a labour of love), has been not only a boon and a guide to students of materia medica, but a material help to those who grow, collect, ship or import drugs; few publications have done more to aid than one object of this Association, viz., the maintenance of the purity of medicine, than this work of Hanbury and Flückiger.

I regret my inability to address you upon topics with which you as dispensers of medicine are more immediately concerned; but as several of my predecessors have done this most ably, and as I from the nature of my business am only imperfectly acquainted with this aspect of pharmacy, I trust that this reference will be accepted as an apology for not having followed the beaten track.

I have passed in rapid review a few of the leading features connected with the purity of medicine during this century, and in my divergence to matters connected with or around the subject I have endeavoured to show what has been done spontaneously, and under coercion, and from force of good example, together with the commercial results of applied botanical and chemical knowledge.

Notwithstanding the divergence of the various paths over which pharmacy has been trodden during the last three quarters of a century, most of the roads have finally led to one goal, around which there is one of the fairest portions specially and attractively laid out for the maintenance of the purity of medicine. We who are assembled on this pleasant and reputable spot to-day have gained more speedy access than we should otherwise have done, had not steps on easy paths been thoughtfully hewn for us.

Let us not "rest and be thankful" for the small advance we have made, but rather use our position as a ledge upon which we may firmly plant ourselves, with a determination to advance to heights which, without our present vantage ground, would have been inaccessible, and may we zealously toil to so maintain and advance pharmacy as to be worthy of those who at Newcastle twenty-six years ago founded the British Pharmaceutical Conference.

BRITISH MEDICAL ASSOCIATION.

LEEDS MEETING, AUGUST 13th to 17th, 1889.

(*Continued from page* 567.)

PHARMACOLOGY.

Sir WILLIAM ROBERTS, M D., F.R.S., presided over the Pharmacology and Therapeutics Section, and put before the gathering some practical points in the use of antacid remedies in dyspepsia and gravel. He observed that nothing could be more striking than the contrast between the activity of the present day in regard to these matters and the apathy and stagnation of forty years ago, when he first began the study of medicine. They were evidently entering on a period of important advances in the healing art, and the time seemed not far distant when therapeutics might at least fairly claim a position as one of the exact sciences. Gastric antacids were employed in two distinct classes of cases—in acid dyspepsia, and in a variety of conditions characterised by great irritation of the stomach, often with vomiting, which was sought to be allayed by the administration of milk mixed with lime-water. Sufferers from acid dyspepsia were in the habit of relieving their pains by the use of antacids. Was there any harm in this habitual practice? Did dyspeptics purchase present ease at the cost of some future detriment? He had, naturally, regarded a practice so artificial with considerable misgivings, but the more extended his experience had become the more he had been satisfied that, with due precautions, the practice was harmless, and he knew of no valid evidence from any other quarter to justify a contrary conclusion. By means of a tabular statement he showed the relative antacid potency of the several articles in common use as gastric antacids, and, speaking of renal antacids, said the use of alkalising agents for the prevention of uric acid gravel stood on quite as rational a basis as the use of antacids for the relief of acid dyspepsia. The essential thing in the prophylactic treatment of uric acid gravel was to guard the urine from precipitating within the precincts of the kidneys. The subject was one of great interest, both in regard to its therapeutical issues and its physiological bearings, and he knew of none more likely to yield valuable results to a skilled and patient inquirer.

Dr. D. J. LEECH (Professor of Therapeutics in the Victoria University, Manchester) contributed a paper on "Hypnotics and Analgesics," in which he stated that very many drugs had recently been introduced as hypnotics. Almost all of them were derived from the substances belonging to the methyl and ethyl series. He pointed out that the admission of chloral hydrate was not devoid of danger if large doses were given, since it tended to weaken the heart's action. The chloral habit had probably caused many deaths. After describing the effects of the various fresh hypnotics, and their freedom from danger, even in large doses, Dr. Leech alluded to the possibility which existed of producing new ones which might have even more beneficial effects than those they now knew of. The substitution of one kind of atom for another had a distinct effect on the influence of the compound produced. They now knew that the introduction of one group of molecules tended to produce a sleeping drug. It might be possible to find groups which relieve pain, and in this way a substance as powerful as opium, but without its ill effects, might possibly be built up chemically.—Dr. JOHN GORDON (Aberdeen) described the result of a series of experiments with urethane. He said that he found it a valuable sleep-producing drug in cases of sleeplessness where there was no marked pain. It was highly useful in cases of hysteria, overwork, bronchitis, and pneumonia. He noticed, however, that in some cases it had a tendency to cause irritation of the stomach after prolonged action. When it acted he found that its action was always prompt, that the sleep it produced was pleasant, tranquil, and natural, and that the patient always awoke refreshed after its administration. The following gentlemen took part in the discussion upon the two papers:—Drs. Roberts, C. Charles, Needham (Gloucester), Richards, and Woods.—Papers were afterwards read by Dr. T. C. Charles (London) on "The Hot-air Treatment of Pulmonary Consumption;" by Dr. T. C. Taylor on "Grand Canary, its Climate and Waters;" and by Dr. A. C. Miller on "The Mountain Cure of Phthisis, with special reference to its adoption on Ben Nevis."

Dr. BURNEY YEO (Mayfair) introduced the subject of "Foods for Invalids and Infants," and in the course of an able paper suggested that, in modern times, they were drifting into a tendency to over-feeding in the cases of acute febrile disease, and that they habitually, and in a routine manner, administered too concentrated forms of food, more especially when they considered that fever patients should be given much water. They gave too little water, too little vegetable and too little saline water. Having referred to the relative advantages and disadvantages of milk and beef tea as food in acute diseases, he suggested that both might be occasionally advantageously replaced by other forms of food. With regard to the food of infants, Dr. Yeo called attention (1) to the modern difficulties attending breast-feeding, partly owing to the indisposition manifested largely by women in the present day to suckle their offspring; (2) to the feeding of the wet-nurse with the view of maintaining the healthy condition of the milk secretion; (3) to the assertion that the hand-fed infants prosper better than breast-fed infants; (4) to the substitutes for breast milk.

Dr. SIDNEY MARTIN (London) gave a *résumé* of the proper dietary in health and disease. In the case of disease the same kind of foods were given as in health, but they were varied according to the condition of the digestive organs of the body generally. Fats must be given in a form easily taken up by the body, but in many cases had to be cut out altogether from the diet. Dr. Martin finally directed attention to the importance of mineral foods, both as regards salts and water. Some people drank too little water, and that too irregularly. Regulation of water drinking was often an important point in the treatment of dyspepsia.

In the course of the discussion which followed, the PRESIDENT referred to the existence of what was called the Bread Reform League, by whom they were told that unless they restored the bran and husks to the bread all sorts of evil would arise. They might, however, rest assured that man was on the right track with respect to his diet, for the race was improving. He ridiculed the assertion made that unless they restored the husks and bran to bread there would be dreadful consequences, and pointed out that the properties which bread lacked were found in other foods usually eaten with it.

Papers were afterwards read by Mr. W. McClennan (Glasgow), entitled "Experimental Research on the general comparative action of the natural and artificial salicylic acids to their salts of sodium;" Mr. S. E. Solly (Colorado Springs), on "The Climate of Colorado;" Mr. H. Radcliffe Crocker (London), on "Antharobin and Soziodals in the treatment of skin diseases;" Mr. C. R. Illingworth (Accrington), on "The Therapeutics of the Biniodide of Mercury;" Mr. H. Woods (London), on "The Oxyiodides of Calcium and Bismuth," published in full at page 590; and Mr. T. C. Charles (London), on "(1) some cases of Diabetes, and (2) on Ichthyol."

SOME FRENCH CONGRESSES.

THE CONGRESS ON CRIMINAL ANTHROPOLOGY.

[BY OUR OWN CORRESPONDENT.]

Continued from p. 572.

I ALLUDED in my last communication to the subject of drunkenness, and to the discussion which took place on the prevention of this vice. Drink is the fertile parent of crime. And this leads me on to another Congress which has been held, devoted to the subject of criminal anthropology. Professor Lombroso, of Turin, has devoted considerable attention to this subject, and is the leader of a new school. He is about to publish a book, called "Palimpsests of Prison Life," made up of the writings of prisoners on pottery, rags, ribbons, and on anything but paper. Many important questions were discussed at this conference.

Amongst the questions propounded for discussion was the following: "Do anatomical characteristics exist proper to criminals? and how shall we interpret these characters?" You will see that this is a very important sociological question, and if established, what corollaries may spring from it; for if the convict class are born with the mark of the beast upon them, and if the crimes of violence, theft, murder, follow on the possession of these anatomical characteristics, then the criminal is really a helpless victim to anatomical character—powerless to resist his temptations. He deserves our sympathy. Our laws, in place of being just, are harsh. The criminal, in place of being sent to prison, should be admitted to a hospital for mending morals. To many who are familiar with the description given by Dickens of Bill Sykes, and to others who may have seen in the purlieus of large cities the unfortunates who live there, it may seem a slight problem; and you might feel inclined to say, "Yes, there is a criminal class—you can detect the class, for crime is written on their faces." But I hope to prove this view is superficial, and only takes into account what has been produced on the human face by bad living and disregard of the moral law, by drink, dissipation, and the like. It leaves out what really underlies the problem, which goes back to birth, and has to be put in another form. Are the children born with these characteristics? Have they the criminal stigmata? and if they have the wide orbits, the prominent cheek bones, the distended nostrils, and other signs of degeneracy, must these children grow up as pathological monsters, and in due time, by force of gravity, drift into the army of criminals? I shall probably have to sketch bye-and-bye how Bill Sykes and his class are created, and return to the general question—

viz., the mental and physical differentiation between habitual criminals and persons of good morals and exemplary conduct, and give you the opinions of some eminent men who attended the Congress.

Dr. Lombroso, the famous specialist from Turin, stated in a very learned, elaborate, and temperate report, that there existed a distinct type of criminal man, just as a savage type is still to be met with. From his *post-mortem* examinations of the bodies of criminals, he found that all the subjects presented the same characteristics—wide eye orbits, prominent cheek bones, distended nostrils, and other anatomical appearances, which were also peculiar to savages. Dr. Lombroso went much farther, and to account for cases which could not be explained on the ground of conformity to this criminal type, he fell back upon reversion. This is termed atavism. Thus you may inherit from your grandfather or mother under this view a tendency to pick pockets, etc. M. Lombroso has for years and years been writing on this subject, and is one of the most advanced school, which finds support from many eminent Italian sociological writers.

M. Alvarez Taladriz, Madrid, in a special communication to the Congress, said that the human races were not yet seriously classified. The criminal type was common to all, with ineffaceable and indestructible characters which were not the capricious invention of certain anthropologists. These characters, according to M. Lacassagne, are: Prognathism, hair abundant and crisp, beard absent, skin brown and tanned, oxycephalia, excessive development of the jaws and the cheek bones, obliquity of the eyes, smallness of cranium, receding forehead, large erect ears, muscular weakness—signs which connect the European criminal with pre-historic man or the Mongolian. M. Alvarez Taladriz entered into the wider field of ethnography, and considered nations, concluding that the physiological characters of the criminal type manifested itself in a uniform and constant manner at all epochs and in all races. I cannot in this paper give abstracts of all the speeches made on this side, but many other speakers supported these views, the general conclusions being—putting it into simple English—that "the thief is born, and not made," and that we must admit that we have a variety of the human race produced in accordance with law, who must become criminals. They are suffering from moral insanity, or anæsthesia of the moral senses. As the wolf follows its prey, and kills the sheep, so these human wolves will commit murder; for, in the words of Dr. Watts, "it is their nature to." Their simian ancestry is assigned in some cases as a determining cause for their transgressions.

M. Taverni, professor of the University of Catania, presented a report, made in conjunction with M. Magnan, physician to the Asylum of St. Ann, "On the Infancy of Criminals in its relation with the Natural Predisposition to Crime," in the course of which he said that the task of recognising the genesis of crime in the individual by means of anatomy had not succeeded, and never would succeed. There did not seem to exist a special type of cranium or of brain of criminals any more than of non-criminals. Here I may observe that M. Taverin has touched upon a very important point—viz., as to their being a typical type of skull or of brain, even of the healthy. Kant asked "whether there were two trees in the world which had the same number of leaves," and the answer to the question has been "No." So that, as the typical tree is not an actuality, the typical skull or brain is simply an ideality; and so far as the human casket in which the brain is enshrined is concerned, the typical skull would appear to have a superior claim to any which might be found. The brain of the criminal, though sliced, though stained, and though peered at through the highest powers of the microscope, yet gives no insight into the genesis of crime, any more than did the brain of Napoleon III. as to the genesis of his greatness—the record in both cases being: "The brain and its membranes were perfectly healthy;" so that when we speak of a type, it is something we have ourselves preconceived and built up for our own edification.

Magnan (physician to the Asylum of St. Ann) is well-known as a writer on insanity, etc. He said he did not admit the natural predisposition to crime. He first alluded to the three stages of infant life: (1) The vegetative stage, when the child simply responds to reflex influence, as, for instance, when you give the infant immediately after birth a feeding bottle and tube, it will instinctively suck; or you may excite the same action by putting your finger to the infant's lips. (2) The instinctive stage, when the child is developing senso-motor activity. (3) The intellectual life, when the child is developing ideo-motor activity; all these stages being most important ones. The predisposition to crime does not exist normally, and if the child becomes a criminal, said Dr. Magnan, it becomes so under the influence of passion or of a vicious education. M. Magnan did not deny that there were children born who were degenerate, and whom you saw at once were degenerate, but on the other hand those who were suffering from moral perversion did not always show any perceptible modification of structure so as to be able to brand them during life. The physical stigmata of the criminal, he concluded, are too inconstant to constitute a type.

M. Herbette, who joined in the discussion, uttered a very important maxim when he said "Never let a child think that he is morally condemned because he has characters of evil. You have no right to condemn to a moral death a man, much less a child."

What, after all, does this come to, if we accept the theory that crime is dependent upon organization, that a criminal having a simian or ape-like skull must have the ape's nature, and is not responsible for his actions, and that this criminal class is under the control of the iron law of heredity? It comes very much to what has been summarised by one whom I might call the greatest mind that ever existed—your own Shakspere. In Scene II., Act I., *King Lear*, he puts in the mouth of Edmund the following: "This is the excellent foppery of the world, that when we are sick in fortune (often the surfeit of our own behaviour) we make guilty of our disasters the sun, the moon, and the stars, as if we were the villains by necessity, fools by heavenly compulsion, knaves, thieves, and treacherers by spherical predominance; drunkards, liars, and adulterers, by an enforced obedience of planetary influence, and all that we are evil in by a divine thrusting on." Shakspere was not a scientist in our modern acceptation of the term, so we shall have to go further afield and examine the question by the light of science, and see whether I can give you any arguments that can satisfy scientific minds that criminal anthropology is a pseudo science, and that it owes its existence only to what Benedict called at the Congress—a spirit of dilettantism.

That most charming and observant writer, Dr. Oliver Wendell Holmes, has hit off in his gentle way the fallacies which surrounded what was once a fashionable hobby—phrenology. In the "Professor at the Breakfast Table" he thus defines a pseudo science: "A pseudo science consists of a nomenclature, with a self-adjusting arrangement, by which all positive evidence, or such as favours, its doctrines, is admitted, and all negative evidence, or such as tells against it, is excluded. A pseudo science does not wholly consist necessarily of lies; it may contain many truths, and even valuable ones—the rottenest bank starts with a little specie."

The old phrenological system fell to pieces under analysis, though there was something in it, but not sufficient to warrant the general conclusions that because one had a high forehead he had intellect; that the low forehead denoted villainy; that the great size of the back of the head indicated animal passion. The bumps as a study are now only taken up by the peripatetic professors, who, for a consideration, will tell you your character, and if you wish to know how it is done I would refer you to "The Professor at the Breakfast Table," p. 183, of the small Edinburgh edition. Craniology and craniometry appear to me to rest upon just such a foundation as phrenology. There is a certain amount of truth in it. It is true that certain criminals have bad faces —"villain" is written on every line; this must be credited to the account of the craniologist. Measurement of the skull shows diminution, etc.; this also goes to the credit of the craniometrist. But on pursuing their investigations further it is found that there are criminals who have skulls better shaped than those possessed by many members of the British Association for the Advancement of Science; this goes against the theory. But even though measurement and appearance negative, yet the craniologist has a loophole, because he falls back upon reversion to some ancestral type. I have alluded to the criminal Bill Sykes; his facial characteristics are indisputable, and how is he produced?

We are *too* familiar with the horrors of the Whitechapel murders; but the Whitechapel murders have been the means of directing attention and bringing a fierce light to bear upon the slums and alleys of that vast district included in the East End. The condition of the toilers, and of the non-toilers, in the vast city of London during the last quarter of a century has much improved. Ratcliffe Highway, for instance, and its rookeries, have been swept away, and we owe a very great debt of gratitude to the philanthropists who interested themselves not only in the birds of prey, but in the workers who had to live in such districts as Ratcliffe Highway was. The press, by the publicity which it gave to the condition of the homes, materially helped on in the crusade which of late years has taken place. I need not give descriptions of the fearful surroundings under which young Bill Sykes was brought up, and under which human passions marked on his face the brand of the murderer. With such surroundings as do exist in the present day the surprise to me is not that we have crime and drunkenness, but that we have not more. Virtue is possible and easy when you have no temptations. Bill Sykes is an artificial creation, not of civilization, but of surroundings which are a disgrace to civilization. His type is accentuated by his dress. What a transformation there would be in many of us if we had our hair cut short, and if we were clothed as he is clothed, with hob-nailed boot, with kerchief round the neck, and that coat, and waistcoat, and cap, immortalised by Dickens. Carlyle, in his "Sartor Resartus," tells us that the clothes make the man; with how much truth experience tells us. To clothe a

boy decently and send him to school well dressed is a potent lever to the elevation of that boy. It develops that great factor self-respect; rags and tatters pull down the child, so that clothing plays its part in education of the child of the gutter or the street arab.

If Bill Sykes has children, and they are brought up in the same atmosphere in which he lives, what can we expect but a reproduction? but if the children be taken out of this atmosphere the same transformation will take place, as we see actually does take place when Hodge, the village bumpkin, takes the Queen's shilling and is transformed into the handsome lifeguardsman, who is the admiration of Regent's Park nursery-maids. All are familiar with the admirable delineations of life, drawn by Du Maurier for *Punch*. You have seen Sir Midas a type of wealth; though in evening dress, upon his face there is a stamp of vulgarity, on which, in spite of all his wealth and the accompaniments of it, animal is written. But look, is Sir Midas repeated in his sons? Look at the handsome youths with well-set heads, straight nose, short curled lips, firm chins, deep chests, light flanks, large muscles, small joints and bones, typical types of young England's beauty, and see if you can trace the parentage. They are his sons; but how has the change been produced? They have gone to Eton, Harrow, Marlborough; from thence to Oxford or Cambridge; they have pulled oars in the college boats; they have played cricket, tennis; they have ridden, hunted and shot; they have been brought into contact with much that is best; and if they have not acquired much information, they have attained formation by the process of attrition, just as when you place a number of square stones and shake them in a box for a time, the sharp angles are rubbed off, and the stones come out rounded and polished by the friction. This is what education can do and does do for the sons of Sir Midas, and what is possible for this type is possible for the lower type, if you can bring to bear the proper influences. Amongst the causes which lead to the production of a Bill Sykes type, there is one great factor—drink—and here we are brought into the great problem, the hereditary transmission of the drink crave. The hereditary transmission of drunkenness is indisputable, but as it is controlled and controlable when it appears, we have to look for an explanation, not only in hereditary but in the surroundings of the picture. It is easy to use terms to speak about dipsomania, and the hereditary nature of the drink crave. Look round in whatever circles you may move and endeavour to count the numbers of persons you have known, or heard of, who have died through intemperance, then try to remember or trace what was the fate of their children, girls as well as boys, for, of course, hereditary must affect women as much as men. In the first place, you will not be able to count so many, and then I think you will find that the girls have almost invariably escaped, and that occasionally the sons have gone headlong to ruin. I have paid some attention to this subject, and having attended the deathbeds of many drunkards, and signed the certificates of death, I may give my experience. The children escape in the vast majority of cases, and the girls almost invariably escape. Now why should the girls not suffer? because the education of the girl is different and her temptation less. Habit fixes abstinence in the woman. She is not brought into such close intimate relationship with drink; she has not to go into hotels or public houses to transact her business, and social custom does not press upon her the glass. The devotion of women to intemperate parents and husbands is, to my mind, one of the marvels of creation. I have seen heroism, pure, true, unadulterated self-sacrifice in domestic life in connection with drink that puts into shade the most classic stories.

What habit does for woman other influences conspire to save the young man, so that, though we may all be able to cite cases wherein the drink crave has been transmitted from father to son, yet, there are so many cases wherein that is not the law, that we may take heart and almost repudiate the dogmatism which would fix for that vice an iron law. Now what are the influences at work which counteract and control heredity? I start with the cardinal principle: Man has free will, and this conative faculty is one of the prerogatives of our nature. Dr. Johnson's mode of argument about free will was a very short and decisive one. "Sir," said the doctor, "we know the will is free, and there's an end to the matter." The importance of establishing freedom of the will is apparent. The willing faculty comprises desires and resolves; thus desire is a blind and thoughtless inclination to act; while will is a free and deliberate resolution to act—the faculty of preference enabling us to make a free option in our desires, and the faculty of election to make a free choice in our actions. These states depend upon consciousness, and though there be a series of molecular changes in every act of consciousness, yet there must be something behind besides pure molecular action to account for all the phenomena incidental to the slightest mental action.

Sir William Hamilton tells us that there is something behind or under the phenomena of mind, and one of the most eminent physiologists of the present age in a recent article called "The Force behind Nature" says: "As a physiologist I most fully recognise the fact that the physical force erected by the body of man is not generated *de novo* by his will, but is derived from the oxidation of the constituents of his food. But holding it as equally certain, because the fact is capable of verification by everyone, as often as he choses to make the experiment, that in the performance of every rational movement that physical force is put in action, directed and controlled by the individual personality or Ego. I deem it just as absurd and illogical to affirm that there is no place for a God in nature, originating, directing, and controlling its force by His will, as it would be to assert that there is no place in man's body for his conscious mind." I agree with Dr. Carpenter in the belief that there is a personal Ego underlying the physical basis of life; I admit that the varied phenomena of life, thought of mind, are intimately bound up with the mechanism and physical structure of the body and returning back to the old formula, as a rule, we cannot have the sound mind without the sound body, but I cannot admit it as proved that the doctrine of the correlation of forces can explain mental action, and brain action, or that nerve force may be converted without the internal Ego, into all those high mental endowments which find their highest development in a Milton, a Shakspere, a Newton or a Bacon. And similarly, I cannot but think that man has free will and spontaneity which not only enables him to escape from the thraldom of vice and sin, but to influence the world, and in civilization by the exercise of the power of will, for thus alone the bold expression of Liebnitz becomes possible: "Entrust me with education, and in less than a century I will change the face of Europe." Without free will on the part of the individual the efforts of Society in its reformatory aspect would be simple waste of energy. Ribot, a well known writer on heredity admits that pure mechanism or determinism will not explain the problem unless we add to it spontaneity or free will. Oliver Wendell Holmes says:

"Think not too meanly of thy low estate
Thou hast a choice; to choose is to create."

This power of choosing helps man in what has been called the battle of life, and about which so much discussion has taken place lately in the daily papers. The struggle for existence presses on man and brute, but with a different meaning for man. The law of battle or the law of strife is one for the tiger and the wolf, for the eagle or the hawk; these creatures fulfil their instincts, and endowed with strength and passion, they put forth their endowments for destruction. Their struggle for existence is such that the fittest survive. But man has higher endowments, and the mission of his soul demands something more than the mere struggle for existence, so that the highest law of our being is not only to wage the battle of life skilfully and faithfully, but to wage it so that our reason and conscience may tell us that we have waged it not selfishly or basely. To overcome the tendency to sin which is vice, we have to be armed and fortified; and this is true not only for the class whose condition we have under consideration, but for all of us. In human life passion is always warring, conscience restraining us, and the struggle between our better self and our ignoble self is always going on. It was said of poor Dick Steele that he was always sinning and repenting, and this state is very largely true of the mass of mankind.

What are the influences of forces which, in addition to free will, control heredity? There are two influences at work, which I trust will always be at work, which in the past have done good service—viz., religion and education. By religion I do not mean simple religosity, pure sectarianism, but the spirit which belongs to religion, and the fruits of which are charity, peace, patience, goodness, mildness, continency, chastity, etc. A spirit which is possessed not only by those who believe in a sect, but which is a natural emanation from the human soul; for it is true in all its fulness that vice is as opposed to true science as it is to religion. Here science and religion are at one on common ground. It has often been said, and made a reproach, that medical men are not religious, hence the old saying "*Tibi tres medici ibi duo athei*"—"Where there are three medical men there are two atheists." I question the truth of this saying, old though it is. I find that some of the most scientific men are deeply religious, and recognise its influence and power. There recently died a very eminent member of my profession, a man possessed of the greatest love of science, and who has left upon medicine an imprint. This man, Dr. Wilson Fox, lay dying, but conscious and reconciled, and by him sat holding his hand another eminent man, happily yet alive, Dr. Russell Reynolds. "Reynolds," said Fox, "I see a great light—what is it?" "It is the peace of God," answered Reynolds, and Fox lay back, and in an instant knew what was meant. It is *this* spirit or longing for the peace of God which must pervade humanity, and which must counteract the spirit of the flesh, the fruits of which are uncleanliness, immodesty, luxury, enmities, quarrels, dissensions, drunkenness, murders, all of which come under the catalogue of inherited vices, but which, as I have endeavoured to show,

are dependent on man's own free choice, and can be prevented by certain influence.

The second great force is education, and it hardly requires any argument at the present day to insist upon its power and necessity. It is an obvious truth, that upon education in childhood depends the future of the man. If the education be bad, or conducted under bad influences, we can only expect bad results; but if the education be begun under happy influences, we may expect a bright future; and this education is of two kinds, and is shared in by two—the mother and the teacher. We have seen, as Dr. Magnan pointed out, that one period of the child's life is vegetative, it responds to what we term reflexes, and then comes the dawn of intelligence, when the child responds to higher influences.

It is an old saying, and a very wise saying, and always true in every country, that good mothers make good men. The influence exercised by the woman is as powerful as the influence of the teacher. Both are educating, but the teacher may be only imparting instruction, adding so much knowledge day by day; whilst the moulding process in which character is so much concerned appears to me to attach itself to the home. This is why I commend the modern system of terms, and the long holidays in our upper class schools, as it brings the child into the home, and strengthens and preserves home love. I need not insist very much on the value of education or its power, but a few statistics will at once convince that with the growth of education we have had a corresponding decrease of commitals and crime. The following table was compiled by Mulhall, and gives the annual average of convictions in the United Kingdom, and periods:

The first period:	1840—1849.....	36,039
	1850—1859..	28,898
	1860—1869.....	19,911
	1870—1879.....	16,402

These figures are remarkable, and there is every reason to assign the decrease to the influences of education. With education we have to consider many other contributing factors. If you cultivate a man's intelligence, you awaken instincts which are not dead but dormant. I have spoken on the value of clothes, and their influence on the child. We are now dredging the country and bringing into the educational net children of all classes, and the result must be that we shall lift these children from a state of degradation to a higher level. Besides the instruction in school, which is not simply ABC instruction—order, method, obedience, punctuality, are enforced, whilst the surroundings of the child, the well-lighted and well-ventilated schoolroom, have also educational influences. But the tendency of the times does not stop with education; the State is coming to the aid of the people, the normal condition of the masses is elevated, and the health of the people is better safe-guarded. We have Acts of Parliament to protect the workman, in the mill, and the factory; we have Acts of Parliament to insure that the workman shall live under sanitary conditions; and we have numerous other agencies by means of which the general well-being of the people is secured. But there always comes a residuum which it is difficult to reach; for the lowest class, even, provision is made. We recognise that there are bad fathers and mothers, and fortunately we have recently had an Act passed by which children will be better protected from parental cruelty, and which will enforce parental responsibility. The child has too long suffered. The State is aiding us in other ways in reaching this residuum. For instance, we have industrial schools for the reception of children who have not committed crime, but who are in danger of swelling the criminal class. The good effect of this system of reformatory agency is proved by statistical returns. Since their institution there has been a decline of 51 per cent. in juvenile crime. In 1869 to each million inhabitants there were 458 juvenile offenders; in 1881 it decreased to 215. If we held the theory for an instant that crime was absolutely inherited, and that criminals were manufactured just as we manufacture cotton and wool, as has been said, could we have achieved such results by the combined forces of religion and education. In 1880 there were in the industrial schools of the United Kingdom 28,428 children. We cannot expect that all these children will turn out well, but we have the consolation of knowing that something like 80 to 90 per cent. prove good and useful citizens. There is a difference between an industrial school and a reformatory, though they are frequently confounded. The boy in the industrial school is not a criminal; a reformatory boy has committed some offence, and we had in the reformatories in the United Kingdom, in 1880, 7,135 children, boys and girls.

It is consolatory to know that all this protective work is attended by such beneficial results, as it should stimulate us to further exertion. We may think that we have no responsibility outside our own circles, but whatever position we occupy, we owe a duty to the outcast and the orphan.

To sum up the problem, as presented by the advanced school of thought. The brains of criminals exhibit a deviation from the normal type, and criminals are to be viewed as an anthropological variety of their species. This is the formula. The corollary from this law would be that every criminal should be exonerated from responsibility on the ground that he had a diseased brain. To admit this law would be to admit the existence of a pathological monster, created by nature of bone and muscle, with a special mission for evil, and revenging itself as it were upon humanity by hideous crimes, atrocities, and vices.

I have endeavoured to prove that this theory rests upon a false scientific foundation, that the criminal class is the offspring of civilisation, and that the responsibility for the creation of the criminal rests upon man. The facts I have adduced appear to me to prove incontestibly that vicious character is not necessarily inherited, and that man makes his own destiny, for good or evil.

Medical Miscellanea.

The subject of our next illustration will be G. Anderson Critchett, F.R.C.S.

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M. C. W. Mansell Moullin, F.R.C.S., has been promoted to full surgeoncy on the staff of the London Hospital, *vice* Mr. John Cowper, F.R.C.S., resigned.

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It is stated that Father Conradi, one of the colleagues of the late Father Damien in the leper settlement at Malokai, has become affected with leprosy.

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Dr. Corner, of Manningham, on the occasion of his giving up practice in the town, has been presented by a number of patients and friends with a handsome dish and and a large electro-silver tea tray.

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The Sanitary Congress at Worcester.—The tenth annual Congress of the Sanitary Institute commenced at Worcester on Sept. 24th. The proceedings began with a public luncheon, at which Earl Beauchamp, proposing "Success to the Institute," spoke of the value of peripatetic societies which spread abroad useful knowledge among the people, and said if more attention was paid to putting into force existing sanitary laws preventable diseases would be more successfully confronted. Local authorities did not always enforce existing laws with sufficient stringency for the health of the people, and it might be well to attach to the office of coroner the duties of public prosecutor in matters of health. He was certain greater stringency must be observed before the full benefit of scientific discoveries could be reaped.—Mr. Hastings, M.P., replying, said many diseases might be held in check by proper preventive measures, and yet the Registrar-General's returns showed an immense proportion of deaths from causes absolutely preventable. Bad drainage, foul air, bad houses annually caused a number of deaths which was a reproach to the nation. These evils were brought on by want of care and knowledge, often by popular prejudices. Sanitary knowledge was, however, becoming more diffused, and the Institute was doing good work in this respect. A Health Exhibition was afterwards opened.

At the first general meeting in the evening Sir Douglas Galton installed Mr. Hastings as president. Mr. Hastings, in his address, referred to river pollution, and said it would rest with County Councils to say whether they would resolve, armed as they were with great powers, in the exercise of which they would be supported by public opinion, that this pollution should go on no longer. It was useless, however, for the country to purify its rivers unless counties above acted in concert with them. He held that the best method of disposing of sewage was to let it flow in liquid form direct upon the land, where it passed through the natural purified earth and could be returned to an adjacent stream without doing any detriment. He thought the Plumbers' Company was doing great good by training young men to carry out the important work of plumbing efficiently. He dwelt at length on the question of efficient ventilation, the importance of which was not sufficiently recognised, and urged that every municipal and local authority should enforce efficient sanitary by-laws. He also spoke of the sanitary influence of occupation, and urged that every care should be taken to lessen the injurious influences of certain trades.

Hugh Miller, M.D., has been appointed public vaccinator of the district of Birkenhead, *vice* P. M. Braidwood, M.D., resigned.

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The University of Durham has signalised the meeting of the British Association at Newcastle by conferring the degree of D.C.L. (*hon. causa*) upon Professor Flower, the President, Sir William Turner, and Professor Burdon Saunderson.

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An extremely interesting shilling book, called "A Record of Three Years Work," was recently written by the Marchioness of Dufferin, and by reading that in conjunction with the Annual Report of the National Association for supplying female medical aid to the women of India, it is possible to realise the enormous strides made recently in this truly philanthropic enterprise.

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Dr. Lauder Brunton, F.R.S., has accepted the offer of the Nizain of Hyderabad to proceed to India to repeat the experiments of the Hyderabad Chloroform Commission, and to further investigate the subject. His Highness has placed the sum of £1000 at his disposal. No one could have been chosen more qualified for the task, and we wish him every success in his undertaking.

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In the report just issued of the Registrar General for Ireland, it is stated that the illegitimate births in the whole of Ireland amount to only 2.9 per cent. of the total births, a ratio greatly lower than that of any other part of the Kingdom, and *á fortiori* much less than that of continental cities, in some of which the illegitimate births equal those of the legitimate. It appears, however, that civilisation and prosperity with the concomitant high standard of education have nothing to do with the exercise of rigid chastity of the Irish women, for we find from the returns that the most incontinent part of Ireland is the well-to-do Province of Ulster. The percentage of illegitimacy in that province is 4.4, against the extraordinary low ratio of 0.7 per cent. which is found in the poverty-stricken Province of Connaught. Indeed, it seems from these returns, that amativeness is a besetting sin of the north of Ireland, for we find also that the highest percentage of marriages under age, both male and female, hail from Ulster.

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At the present moment there are some two hundred *native* women studying medicine in the medical schools at Bombay, Calcutta, Lahore, Madras, Hyderabad, and Agra, which is the latest one to open a class to the sex. Some will take Indian University degrees, some will come here, or go to the Continental or the American schools, to carry their education as far as possible, though the majority will never proceed further with their studies than to be classified as "hospital assistants." At the outset of the movement it was difficult to find Indian girls sufficiently bold to break through the conventional traditions of centuries, and come forward to adopt the profession; but now there is almost an *embarras du choix*, and rigid supervision is exercised in the selection of those only who are intellectually and physically equal to the training. The National Association now has eleven fully-qualified lady doctors practising in various parts, and of these five were trained in England and six in India. It now only permits ladies to designate themselves "doctors" if their education has been sufficient to permit them to be registered under the Medical Acts in force here, and gives to less highly qualified women the titles of "Female Assistant Surgeon," or "Female Hospital Assistant." It is pleasant testimony to hear that the strictly "Unsectarian" scope of the National Association did not prevent ladies of the various Medical and Zenana Missions from giving it all the help and counsel in their power.

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Arsenic in Glycerine.—At one of the meetings of the British Pharmaceutical Society, Mr. Louis Siebold read a paper, which produced a considerable amount of discussion, on "Arsenic in Glycerine." He said he had examined a large number of samples of different kinds of glycerine, and found that a considerable number certainly contained arsenic, the quantity of arsenious acid being 1 in 4,000 to 1 in 6,000. The quantity was very large, though some samples were free from arsenic. Mr. Umney, the president, said if arsenic was found in ordinary glycerine, it was a very serious matter. Did it arise from the manufacture or from the bottles? Dr. Allen, public analyist, Sheffield, said the fact in connection with a recent well-known case was very important. Dr. Thrish, Manchester, said he had known cases of arsenic poisoning which could not be traced, but which might have come from patients cough lozenges containing glycerine. Dr. Plowman said they were bound to admit that the quantity was very serious, and they must do everything possible to trace the arsenic, at the same time avoiding a scare. Mr. Siebold, replying, said he carefully distilled the glycerine, which might be pure, but arsenic was undoubtedly present in ordinary glycerine. At the close of the Congress Mr. Reynolds, Leeds, invited the Conference to Leeds next year, and the invitation was accepted.

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The Northumberland and Durham Medical Society, with Dr. Murphy as president, hold their first meeting on October 4th. Professor Lawson Tait will deliver an address. The meeting will be held in the Examination Hall of the New Medical College. The meeting will not be limited to members of the Society only; all qualified practitioners will be welcome to attend. After the address the members will hold their Annual Banquet; and this, also, will be open to any qualified practitioners who may desire to be present. It is hoped that this will be one of the largest medical gatherings ever held in the North of England. Let us hope practitioners will do their best to attend.

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The president of the Health Section, Worcester Meeting, 1889, in his opening address, glanced at a long roll of diseases which depend upon the law of heredity. He maintained that unthriftiness in marriage, which prevailed among the ignorant and degenerate, led too often to intentional neglect of children amounting to culpable homicide. It accounted for the inhuman form of false thrift which, under the name of infant insurance, was spreading its baneful influence even in innocent village communities, and not only tempted to neglect, but too often sealed the doom of hapless infants. Public opinion was not advanced enough to sanction a system enforcing the production of a certificate of health by those about to marry, but he thought the time was at hand to put some check on the appalling waste of infant life which disgraced civilisation, by prohibiting marriage until a man could give reasonable proof that he could maintain his wife, and by prohibiting absolutely marriage under twenty-one. He dwelt on the sickness which might be averted if ordinary medical practice were based on preventive as much as curative lines. He numbered dietetic errors, luxury, overwork, idleness, clothing errors, and intemperance, as preventible causes of sickness and death, and said there would be a constant drag on public health and progress so long as doctors attended people only when ill, and not to conserve the health of the household. He thought a great improvement might be effected if a medical attendant were paid by annual stipend or retaining fee, instead of by visits made.—A paper was read by Dr. Strange, medical officer of health for Worcester, who described the great sanilary improvements effected in that city and their beneficial effects on public health.—Dr. Arlidge read a paper on the sanitary aspects of pottery manufacture.—In the afternoon Earl Beauchamp gave a garden party at Mandresfield Court, and a conversazione took place at night.

* * * *

A new theatre has been fitted up at Queen's College, Birmingham, for lectures on medicine, etc., the former medical theatre being now reserved for anatomy. The dissecting room has been entirely refitted with new illuminating, ventilating, and heating apparatus, and with tables of an improved type. The Council have passed the plans for a new anatomical museum and pathological laboratory, which will be ready for use at the commencement of next summer session.

* * * *

The next annual meeting of the German Dermatological Society will be held at Berlin in connection with the International Medical Congress. Professor Caspari, of Konigsberg, has been appointed president, Professor Neisser, of Breslau, secretary, and Professor Lipp, of Graz, treasurer for the year 1889-90.

* * * *

It is gratifying to be able to note that the hospital to be conducted by women, of which the foundation stone was laid by the Princess of Wales a few months ago, is already supplied with sufficient funds necessary to erect and furnish it.

* * * *

The Viceroy of India during his term of office has placed at the disposal of the Central Committee of the Lady Dufferin Fund five silver and two bronze medals for annual competition among the female medical students. The former are awarded to Calcutta, Lahore, Arya, Bombay and Madras, and the latter to medical schools at Hyderabad and Agra.

* * * *

We regret to have to record the death of Dr. Henry Harvey Boxwell, of Wexford. This gentleman, who had formerly one of the largest practices in county Wexford, died on Sept. 1st, æt. seventy-nine years. The deceased was a Doctor of Medicine of the University of Glasgow, and a Fellow of the Royal College of Surgeon of Ireland in 1844. He was Physician to the Wexford County Infirmary for the past fifty-two years.

Mr. F. A. Heath, according to the rules, has resigned his position as Honorary Surgeon of the Royal Infirmary, Manchester. Mr. Heath has been connected with the institution for over thirty-three years, he having been appointed House Surgeon in 1853. Mr. F. A. Southam was elected to the vacancy caused by Mr. Heath's resignation.

* * * *

Mr. J. A. Collinson has been presented with a handsome set of brass table ornaments by the nursing staff of the Durham County Hospital, on the expiring of his term of office as house surgeon.

* * * *

The proprietors of the *Nursing Record* are about to publish under the title of "The Nursing Record Series" a number of "Nursing Manuals and Text-books," embracing all the departments of nursing work. The books will be neatly bound, and will be sold at prices easily within the reach of nurses, who we feel sure will appreciate them.

* * * *

Those who suffer from short sight are now sufficiently fortunate in being able to obtain spectacles and eye glasses of superior construction, as compared with those used a quarter of a century ago. Many improvements have been introduced in shape. Amongst the latest addition we have to note the patent of Mr. Bussey. Spectacles made from formulæ are fitted into the handle of an umbrella or walking stick, so that when out walking or inspecting exhibitions the glasses can be brought into immediate use.

* * * *

We regret to have to record a number of deaths after the Pasteur treatment :—

Case IX. (see Provincial Medical Journal, June, p. 362). Gilbert Prosper, æt. eleven years, Bruxelles, bitten severely June 18th. Treated from June 24th to July 9th (*L'Union Médicale*, September 5th, 1889).

Case X.—Jean Baptist, Sotheaux, France, bitten July 5th very severely; treated from 5th to 26th July. Hydrophobia appeared on August 24th (*L'Union Médicale*, Sept. 5th, 1889).

Case XI.—Patrick Waleley, æt. seven years, Newry, Ireland, bitten on May 3rd by a dog which disappeared after biting five other persons. Wound cauterised with nitrate of silver an hour afterwards. Treated at the Institute from the 20th May till 3rd of June. Died June 13th, 1889 (*L'Union Médicale*, Aug. 24th).

Case XII.—Gustave Condurier, æt. seven years, Noyrey, France, bitten on June 9th very severely; wounds washed with phenic water an hour afterwards; treatment commenced from June 15th. Hydrophobia developed on June 24th, an incubation of fifteen days.

* * * *

St. John Ambulance Association. — A public demonstration in connection with the Buxton Centre of the St. John Ambulance Association, was held in the Town Hall, on September 6th, at which there was a large attendance. The gathering was a complete success, and the committee and Dr. Mugliston are to be congratulated upon bringing it to so successful an issue. The men acquitted themselves well in all their exercises, and ably illustrated the great use of "first aid" to the injured, and were loudly applauded for their military precision in the drill. Sir Herbert Perrott then distributed certificates of efficiency obtained by ladies, workmen, and navies. Several ladies also obtained certificates in nursing. A very handsome travelling bag, with stirling silver fittings was presented to Dr. Mugliston, by Sir Herbert Perrott, subscribed for by the members of the Buxton Ambulance classes, as a token of their appreciation of his services as lecturer. Dr. Mugliston, who was taken by surprise at this mark of esteem, expressed his thanks for his pupils recognising in so handsome a manner, any exertion on his part, and trusted that very shortly ambulance brigades would be formed in the outlying districts, so that injured persons should receive immediate assistance, and thus prove the benefits intended by this excellent institution, strongly impressing upon his hearers that "first aid" was in no way to supercede the attendance of a skilled surgeon. The following is a short account, as given in the course of Sir Herbert's speech, of the work done by the St. John Ambulance Association. After detailing the reinstitution of the order of St. John of Jerusalem, the ambulance branch being formed by the Duke of Manchester, about twelve years ago he said the number of certificates granted up to June last were—during the season of 1888-9—"First aid" (males), 14,754; ditto (females), 6,738; nursing (females), 2,725; gross total for past year, 24,217; being an increase on the previous twelve months of 2,036, and of the year before last, 6,499. There were 12,415 medallions issued up to date. Total number of certificates awarded to London Metropolitan Police Officers (exclusive of those granted to the City Police) up to date, 2,231. This number included those presented August 15th, 1889. The Mines Regulation Act, which came into force January 1st, 1888, caused a great increase in the amount of work done. The books presented to Mr. Simpson, hon. sec., were on "physiology," and not "physiognomy," as previously stated. The following gentlemen obtained certificates :—T. A. Croghan, Thomas Woodruff, John Bromley, Joseph Gregory, Joseph Shelmerdine, Sydney Taylor, Percy Taylor, Louis Wall, David Johnstone, M.A., George Howe, Isaac Sutcliffe, George Child, S. S. Brittain, R. B. Lee, George Smith, Robert Todd, William Millen, Martin Kings, John T. Todd, William Day, junr., Robert D. Day, Joseph Day, Walter Broadberry, David Nadin, William Plant, John Bellfield, John Edge, Henry Hampson, George Plant, George Utlay, Samuel Parker, Matthew Wardle, George Grantham, Robert Roberton, Thomas H. Danks, Thomas R. Slack, Bernard Middleditch, Robert D. Parker, Arthur A. Bradley, George Naylor, Jas. B. Wood, John Horsfield, Richard Brinsley (navvies), John Riley, George Fowler, Wm. Hammond, Thos. Wixcey, Henry Thorney, and George Allen. The ladies who secured certificates were as under, those marked with an asterisk also taking certificates for nursing :—Miss Thomas (medallion); certificates, Misses A. Brown, J. Brown, *H. E. Brown, Caswell, E. Caswell, *Mrs. Crossley, *Miss Dale, *Miss Farnworth, Mrs. Haddock, *Mrs. Harrison, Misses *Manlove, *E. Manlove, *B. Manlove, Mrs. Orme, Misses *Parker, Richardson, *B. Sargeant, *V. Sargeant, *H. Sharpe, *A. Slater, *Mrs. Cowley Smith, *Mrs. Stamper, Miss Taylor.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the Editor, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16th of the month.

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

OUT-PATIENT HOSPITAL REFORM AND PROVIDENT DISPENSARIES.

To the Editor of The Provincial Medical Journal.

Sir,—I have tried to lay my views before the profession as to the manner in which the out-patient departments of hospitals and of dispensaries should be reformed. Far be it from me, however to suggest that all those wage-earners who are making *under* 20*s.* per week should be encouraged to seek charitable aid; I would rather follow out the Manchester system, and suggest, as they do there, that the person so situated should be admitted to the provident dispensary at a lower rate of payment than is levied on well-to-do members. All charitable relief should be only temporary, not permanent. As regards the proposed Public Medical Service already referred to, may I ask all who are discussing the resolutions to give their opinion on two other points: (1) whether we should fix a confinement fee, and (2) as to whether we should fix a fee for "home" visits—that is a visit to patients' homes—of course giving doctors the power of refusing to make a "home" visit, else we might not secure so good a class of doctors. If we can arrange a Public Medical Service for those wage-earners who are making up to 45*s.* per week per family, and give them medical, surgical, and dental treatment, and medicines from the chemists, then perhaps it would be better to draw up a scale of fees for confinements and "home"

visits, as has been done for vaccination. This seems to be a growing wish with members of the profession.

Now as regards provident dispensaries, I am aware that a great many doctors object to what is known as the provident system. They do not object so much, I think, to the provident system, as they do to its great abuse. A few who hold hospital appointments object to it because they see in it a reflection of their own actions, and think *one* charity is sufficient. Some who hold club appointments object to it for this reason: when a doctor contracts to treat a club patient he calculates on securing the confinement and vaccination fees, and also those due for the illness of the children. I say nothing of such objections. In fact I had rather not notice such issues, for it is so like the pot calling the kettle black when one hears a doctor who holds a provident dispensary or club appointment lecturing one who is attached to an hospital. Others, again, object because the rules of the provident dispensary have been drawn up with an utter disregard as to whether the proposal rests on a sound financial basis. Remember I am not now speaking of a charity proposal. No tables of the rates of sickness seem to have been consulted; little or no attention seems to have been given to the fact that the extremes of life are admitted on equal terms of payment with adults. In fact, infants are admitted *at a lower* rate of payment, although their average rate of sickness may be put down at fourteen days per annum, while the adult generally averages nine days. Even the industrial classes escaped this unpardonable blunder and grasped the importance of the age limit, for they admit only those between the ages of eighteen and fifty. Suppose the originators of the Medical Sickness Society had not secured the advice of an eminent actuary, is it likely we should have adopted the proposal? Yet evidently the promoters of the provident dispensary scheme never thought of doing this, or if they did they have not acted up to it. Had they done so it would have saved much subsequent trouble. However, this is another proof of what I have said elsewhere of the fatal tendency we medical men have of trying to introduce the element of charitable aid, even when we are dealing with well-to-do wage earners. Again, the originators do not seem to have even fixed a rigid wage limit, and with this result, that the provident dispensary is now as grossly abused as are sick clubs and hospitals. Again, they made a rule which must prove deadly to any insurance scheme, namely, that a person by paying what is known as the "sick entrance fee" had the power to demand *immediate* treatment. Fancy any insurance company giving immediate benefits, and that, too, without a medical certificate! Therefore a great part of the failure of the provident scheme is due to this: that there is little or no use paying while well, as there is no difficulty in joining when sickness comes. Here the very essence of the insurance system is perfectly ignored, as this allows the wage-earner to join when ill, and to leave off paying when well. Take, again, another rule, which says "Not more than four children of one family shall be charged for, all the others being free to benefits." What is the result of this? Dr. Stewart, of Manchester, has shown that fully 13 per cent. of provident dispensary members are treated as *free*, or *charity* cases; this, too, in a provident insurance! But, perhaps, this is what business men call "taking a number at a reduction!" Again, there is no "sliding scale" for ages. All insurance companies have been very careful to take particular note of this, as it would be unreasonable to expect all ages to pay a similar amount. Our provident dispensary promoters evidently professed to take in old men, adults, infants, and chronic invalids. Even persons suffering from acute illness are invited to join.

As regards the remuneration of the medical staff, this is insultingly low. In the *British Medical Journal* of 18th January, 1887, I published statistics of eighty-eight provident dispensaries. I found that the doctors were paid on an average a little over 6*d.* per visit. Dr. Stewart found it 4½*d.* Perhaps a wage earner will say that is amply sufficient. Well, ask this working man if he is not paid from 6*d.* to 10*d.* per hour, and if he does not generally secure double wages if he works after 5.30 p.m. Yet he expects the skilled workman —one who has served an apprenticeship of some fifteen years, and who has expended from 600*l.* to 800*l.* on his education—not only to work at a lower wage than he does, but to go out perhaps on a winter's night, to walk a mile or so and prescribe for a patient, and then to walk home (for I do not think the wage-earners would allow him to take a cab at 5*s.*), and all for the magnificent fee of 4½*d.*, medicines thrown in. Why, even the privy and cesspool cleaners are paid better! This is hardly good enough. Although so many hospital doctors think that as many as like to come to the charities should get free aid, little wonder the working-man follows so brilliant an example. But if the working-man says this payment is sufficient, then offer him 4½*d.* for every time you are called out at night, knocking him up and making him go with you. He will then see the absurdity of his argument. For my part I cannot see why some men, sitting in their snug studies, have drawn up a scheme which gives a doctor 4*d.* for a night visit, and I cannot understand why they try to cram so degrading and so very offensive a proposal down our throats. Rather than pay a night visit for these four coppers to a class of the community who consider themselves *many grades* above charity cases I would go out for nothing, treating them as charity cases, than give them the power of *even pretending* they were paying me for my services. And so I hold that the doctor who goes out for such a fee is prostituting himself, and is degrading his profession. If his wife and children are starving he should make some other start in life, or if he is treating these well-to-do people for this sum so as to starve out a neighbouring practitioner—as some of our hospital "brethren" do—he may be doing a sharp business trick, but I question the morality of his conduct. Yet what are we to do. At seventy-two London hospitals the doctors are paid at the rate of 6½*d.* per patient, *not* per visit. All one can say is: "God help us;" for with our many quotations from scripture, we are as villainous and cut-throat a body of men as ever pretended to be so exalted and philanthropic. It was very fine, no doubt, to listen to the Bishop of Ripon preach as he did, but for my part I still hold my own ideas of those doctors who, under the guise of doing good, secretly take the life's bread from their brother, and so make many a doctor's home hungry and sad. We do not wish to restrain charity, but to guide it.

Scarcely any provident dispensary has troubled itself with drawing up a scale of surgical fees. Perhaps these are included in the 4*d.*! The Shipston-on-Stour is the only one which has tried to grapple with this point. Again, no dental tariff seems to have been drawn up. Perhaps the scale to be suggested for the Public Medical Service will do. Another step in the downward direction is the rule which appoints midwives, thereby granting that they are as good as doctors.

I am, however, a firm believer in the provident system. It is the one suited to the financial condition of wage-earners of limited means. It can and should be placed on a firm financial basis. First, I would say that the provident system *cannot* be self-supporting, whatever theorists may say to the contrary. Why, even the Foresters' Friendly Societies have 13,971 honorary members, and look what they make from fines and lapsed membership. Practical Germany has recognised this plain fact. There they have compulsory insurance against sickness, accident, and old age for the wage-earning classes, and the employer has to pay one-third opposite the two-thirds paid by the *employé* (see paper of mine in the *Foresters' Miscellany*, August, 1886). The rent and taxes of a provident dispensary—coal, gas, printing, stationary, drugs, wages of collector, dispenser, and secretary—should be defrayed out of an honorary subscription list. Some have such a list, but it is not sufficient, for I notice that although eighty-eight dispensaries have an income of 52,252*l.* *from members' payments*, still the medical staff receives only 34,989*l.* The doctors, therefore, lose 17,262*l.* by this unbusiness-like transaction, their money going to pay for the requirements of the members; that is, the fee has to pay, besides the visit, the collector, dispenser, printing, coal, gas, and drugs for the members. Would it not be more manly, and far more honest, to do as friendly societies do, and have a separate charge for management expenses, instead of pretending that the weekly payments *all* go to the doctors? Honesty, *even as a policy*, is better than deceit.

One more point must be noted. If we charge at the rate of 1*s.* per man and wife, 6*d.* for each member of a family (taking four as an average), and allow six bottles of medicine at 2*d.* per bottle, this will put a cost of 42*s.* per annum on each family, or 7*s.* per member per annum, or about 1¾*d.* per week—not too large a sum, when we consider the advantages offered. The amount spent per head of the entire population on alcohol is 1*s.* 4*d.* a week.

I have called attention to a few of the most glaring faults of the present provident system, so as to show the great amount of work required. For my part, I wish that the Council of the British Medical Association would spend 50*l.* in obtaining the opinion of a skilled actuary, so as to find out a true working basis for a provident scheme. The Council have done a good work for science. May we ask them to do a little for the general practitioner? I am certain we have only to approach the Council in a friendly spirit, and present our petition to them. All of them have the interest of the profession at heart; and I am fully persuaded that before another year is out the Council will not only have drawn up a scheme which will, if worked, guide and direct true charity into a proper channel, but will—with the co-operation of the branches of the Association—develop a scheme by which the industrial classes of this country will have the power of providing themselves with a very efficient medical service. One thing we must have—and that is, hospital co-operation. No one can point to a provident dispensary having succeeded when it has had to compete with a neighbouring free hospital. On the other hand, we can point to cases where the provident scheme has been a success when it has been actively helped by the hospitals. But I think those doctors acting on hospital staffs are willing to help. The present condition of affairs is a disgrace

to us all, and the sooner we get rid of it the better. I do not wish to be a prophet of evil, but I have no hesitation in saying that the epitaph of the provident scheme will be, if it does not secure hearty and genuine hospital co-operation, "It died because it had not the good wishes and active support of our brethren on the hospital staffs."

Mr. Ernest Hart, speaking at the Leeds meeting of the British Medical Association, said he hoped the branches would at once call meetings to discuss the resolutions, and also that he would give as much space as possible for a report of the discussion.

It now remains to be seen whether the doctors will shake off their almost proverbial apathy, and tackle this question of hospital and dispensary reform. If they do not care to help themselves, they must not expect to be spoon-fed by the Council. The Council is waiting the reports. We should all feel thankful to Dr. T. Holmes, Sir Spencer Wells, and others, for their dogged perseverance in this provident proposal. Will anyone say that had they secured the hospital co-operation for which they have fought for over twenty years, we should not now have a well-directed service? But what provident scheme could carry on a healthful and vigorous life, when it has to compete against the demoralising and baneful influences of indiscriminate and ill-guided charity?—I am, Sir, yours truly,

Liverpool, September, 1889. ROBERT R. RENTOUL, M.D.

P.S.—With the permission of the editor, I wish to suggest that all readers interested in this question of reform should order a number of reprints of this letter, and circulate them among the daily and weekly lay papers, and send them to hospital subscribers and managers. It is only by organised effort and dogged perseverance we may hope to succeed. Reprints cost only a very small sum.

ACUTE RHEUMATISM AND ENDOCARDITIS.

To the Editor of The Provincial Medical Journal.

Sir,—The very able contribution of Dr. Alexander Harkin to the Provincial Medical Journal in May, 1889, stated his belief, that after a chill, when acute rheumatism was developed, the initial mischief was endocardiac.

Also, that frequently, when no cardiac disturbance could be detected, a blister applied promptly to the region of the heart would cut short the attack of acute rheumatism.

This announcement is so startling that we may be quite sure that the readers of the Provincial Medical Journal will hail with great satisfaction the results of the experience of such of the profession as have availed themselves of Dr. Harkin's example, in the treatment of acute rheumatism, if they will kindly supply them to this journal.

Yours faithfully, H. BUSS, M.D.

September 24th, 1889.

ARSENIC EATING.

To the Editor of The Provincial Medical Journal.

Sir,—Dr. Masterman in his paper on "Arsenic as a Cosmetic" seems to doubt there being such a thing as arsenic eating—*i.e.*, taking arsenic in poisonous doses without producing serious symptoms.

In his course of lectures on Medical Jurisprudence, Sir Douglas Maclagan told us that his son visited Syria some years ago, and became acquainted with two men who were regular arsenic eaters. They had accustomed themselves to taking about five grains of arsenious acid as a dose. They showed no symptoms of poisoning, and on examining the urine arsenic was found in abundance.

I am, Sir, yours faithfully,

CHAS. J. MOUNCEY.

NATIONAL HOME READING UNION.

To the Editor of The Provincial Medical Journal.

Sir,—May I inform your readers that the National Home Reading Union has now opened its office in Surrey House, Victoria Embankment, W.C. Miss Mondy has been appointed secretary of the Young People's Section, and George Howell, Esq., M.P., has been appointed secretary of the Artizans' Section. All communications concerning either of these sections should be addressed to them respectfully at this address. Miss Mondy has also been appointed office secretary. All communications, therefore, concerning the general work of union, as well as concerning the general readers' section, should be addressed to her, or to the honorary secretary. All letters of enquiry should be accompanied by a stamped and addressed envelope.—I am, yours truly,

Surrey House, Victoria Embankment. J. B. PATON.

Bibliographical Record.

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A Manual of Pathology. By Joseph Coates, M.D. *Illustrated.* London: Longmans, Green & Co.

Onions and Cress. By H. Valentine Knaggs. London: Pickering & Chatto.

Leprosy: a Review of some facts and figures. By Phineas S. Abraham, M.A., M.D. London: Shaw & Sons.

Hygiene and Public Health. By Louis C. Parkes, M.D. *Illustrated.* London: H. K. Lewis.

On Bedside Urine Testing. By George Oliver, M.D. Lond., F.R.C.P. Fourth edition. London: H. K. Lewis. 1889.

A Guide to the Alteration in the British Pharmacopœia (1885). By Prosser James, M.D. Third edition. London: J. & A. Churchill, New Burlington-street.

Buxton: its Baths and Climate. By Samuel Hyde, L.R.C.P., M.R.C.S. Manchester: John Heywood, Deansgate.

Du Traitement des Fibromes Uterines par la methode d'Apostoli (l'Electrolyse Uterine). pp. 16. Par le Dr. Doletany (Nantes). Paris: O. Doin. 1889.

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What to do in Cases of Poisoning. By William Murrell, M.D., F.R.C.P. Sixth edition. London: H. K. Lewis. 136, Gower-street.

EXCHANGES, 1889.

American:—

1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

British:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

Dutch:—

35. Nederlansch Tijdschrift voor Geneeskunde.

French:—

36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
42. Annales de Gynæcologie et d'Obstetrique.

German:—

43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
48. Fortschritt der Medecin.
49. Chemiker Zeitung.

Italian:—

50. Lo Sperimentale.
51. Rivista Internationali di Medicina.

Portuguese:—

52. A Medicina Contemporanea.

Russian:—

53. Vratch.

Spanish:—

54. Rivista Clinica de Barcelona.

Turkey:—

55. Revue Medico-Pharmaceutique Constantinople.

Provincial Medical Journal, November 1st, 1889.

Sincerely Yours
G. Andrews Critchett

THE

Provincial Medical Journal:

A MONTHLY REVIEW OF MEDICAL SCIENCE, LITERATURE, AND BIOGRAPHY.

VOL. VIII.] NOVEMBER 1, 1889. [No. 95.

Our Portrait Gallery.

G. ANDERSON CRITCHETT, F.R.C.S.E.

ANDERSON CRITCHETT was born in London in 1845, a month or so before his father was appointed assistant surgeon to the London Hospital. He was educated at Harrow, and later at Caius College, Cambridge. Those who remember him as an undergraduate retain the recollection of a genial and versatile companion; an enthusiast at athletics, and an ardent student of English literature. After graduating, he studied for some time in Germany and in Paris. His first public association with ophthalmology dates from 1867, when he attended, as a member, the International Ophthalmic Congress at Paris, under the presidency of Von Graefe.

On his return to England he served a long apprenticeship to his father, and there is no doubt that this lengthened association with one of the first ophthalmic surgeons of the time laid the foundation of Anderson Critchett's future career. He became a Clinical Assistant at Moorfields in 1872, a post he held for seven years. In 1879 he was appointed Ophthalmic Surgeon to the Royal Free Hospital, but resigned the office in 1881. In that year he was elected Ophthalmic Surgeon to St. Mary's Hospital. This post he still holds, together with that of Lecturer on Ophthalmic Surgery at the Medical School.

Anderson Critchett was Vice-President of the Section of Ophthalmology at the Brighton meeting of the British Medical Association, and was President of that Section at the recent meeting at Leeds. His address from the chair in opening the discussion on "The Treatment of Immature Cataract" was lucid, eloquent, and masterly. The list of Mr. Critchett's contributions to the literature of his subject is extensive. Apart from their scientific value, his various monographs, addresses, and brochures are distinguished by a finished literary style which is not common, it must be owned, in the writings of busy medical men.

Probably the most important of these various papers are an article on "The Extraction of Cataract," and a lecture on "Eclecticism in Operations for Cataract," which appeared in the *British Medical Journal* in November, 1883. This lecture, which is a model of polished literary work, deals with the selection of a method in the operation for cataract. The whole subject is treated in a judicial manner, and with a liberal but precise judgment. It is an elaborate and highly finished piece of scientific criticism, and is the work of a man who has the rare faculty of generalisation, and who will not be held or hampered by formulæ, dicta, or "accepted methods."

Mr. Critchett's ability as a debater has been demonstrated by many speeches, and on many occasions, but not the least brilliantly by his defence of the operation for cataract with iridectomy, at the International Ophthalmic Congress, held in Heidelberg in 1888, under the presidency of the late Professor Donders.

Anderson Critchett's repute as an operator has grown with years, and it may in truth be said of him that in the department of practical ophthalmic surgery he has few rivals. His method of operating upon cataract, without a speculum, and with no other assistance than that provided by his own skilful fingers, affords an admirable illustration of finished handicraftsmanship. In the records of the progress of ophthalmic surgery in this country the names of "The Critchetts" will always stand forth as the names of two men who, in addition to keen powers of observation, and an enthusiastic pursuit of their speciality, possessed to a remarkable degree that deftness of hand which—although to some extent the outcome of long and laborious practice—is in a larger degree a rare and natural gift.

Mr. Critchett is well known, moreover, as an able and accomplished speaker, and those who were present at his Introductory Lecture, delivered at St. Mary's Hospital in 1887, will remember an address of singular power and earnestness, delivered with all the effect and *verve* at the command of a ready and cultured speaker.

Original Communications.

MEDICAL EXAMINATIONS AND MEDICAL EDUCATION.[1]

By Phineas S. Abraham, M.A., M.D., B.Sc., F.R.C.S.I.,
LECTURER IN PHYSIOLOGY AND HISTOLOGY.

I am duly conscious of the undeserved honour which my colleagues have conferred upon me in entrusting to me the duty of delivering the opening address at this school. A few years ago nearly every institution in the kingdom connected with medical teaching had its inaugural ceremony during the first week of October, but like many other old customs, this one has been gradually waning, and now comparatively few of the metropolitan medical schools besides our own are opening the session 1889-90 in the time-honoured fashion. From my personal feelings at the present moment I cannot help saying that I sincerely wish that these functions had been quite abolished; but from another point of view—such as I should take up if any other member of the staff were now speaking instead of myself—I must confess that I do approve of such annual gatherings, which bring us all together—teachers, students, and friends.

The speakers on these occasions have been more than once twitted for enunciating well-worn platitudes; for repeating *ad nauseam* the admitted fact that the medical profession is a noble one; for telling their hearers what they all know—that they ought to be "good boys," etc.; and for inflicting upon them generally what have been termed "fruitless harangues." I refuse to believe that the words of wisdom which many of you must have heard from my distinguished predecessors in this honourable office have been altogether thrown away. At any rate, if these addresses were in your opinion all nonsense, you would not, I presume, be so foolish as to come and listen to them again. Yet there are present here to-day second, third, and fourth-year's men, and others even more senior, some of whom perhaps do not consider it an absolute waste of time—although it is possible, of course, that they may have some reason to change their minds within the next few minutes!

But I see before me, also, faces which are not familiar, and to you, gentlemen, new students who are to-day making your entry into the profession, I hope that my remarks will not, at all events, appear too stale.

First of all, on behalf of the staff, I desire most cordially to welcome you within these walls. In choosing the Westminster Hospital as your *alma mater* I believe you have done well. This is a small school, and there will be, at any rate, no fear of your being lost here in a crowd; but coming, as you necessarily will do, into close contact with all your teachers, everyone of you may command more personal assistance from them than would be possible, except for a favoured few, in any of the large schools. When, moreover, your time for bed-side work arrives, you will reap the great advantage which the Westminster Hospital affords of an abundance of clinical material in proportion to the number of its students.

I have had some experience of other schools and hospitals, and I have no hesitation in saying that I know of no institution in which the general "form" of the students is better than it is at the present time at the Westminster. Indeed, as I have heard it remarked, there is an atmosphere of work about the place, which makes it quite uncomfortable for the deliberate idler!

Although I may be allowed to suggest that the teaching may have had something to do with it, it is, I think, in a great measure on account of this high professional *morale* of our school that the Dean has been enabled to present to us to-day such a favourable report of the successes of our students at the examining boards. I have reason to believe that no medical school in London can show better, or probably even so good results.

From a calculation which our excellent secretary, Mr. Green, has been good enough to make, it appears that from July, 1887, to the present date, 426 distinct examinations have been attempted by our men at the various boards, and that the percentage of passes has been no less that 77.23. The figures for the conjoint examinations of the Colleges of Physicians and Surgeons have been particularly satisfactory, showing for the past two sessions very close upon 80 per cent. of successes. Of course some subjects may be more difficult to pass in than others, but I may be pardoned if I allude to the fact that the gentlemen who have done me the honour to attend my courses have well kept up the reputation of the school, with a record of 83 per cent. of passes in physiology. I may mention that there has been no attempt here to prevent the weaker men from presenting themselves at the public examinations, or to allow only those to go in who might be likely to get through.

We all know that the great aim of the average medical student is to pass his examinations and to get qualified as soon as possible. This, of course, is quite natural; and I maintain that it should be the constant endeavour of his teachers to assist him in every way to this end. The young doctor will soon find, however, that there is much beyond the final examination, and that a man who has just passed through his school—although he may have conscientiously mastered his text-books and learnt a great deal practically and theoretically about the cases which he has seen or helped in treating in hospital—is really not very far over the threshold of even existing medical knowledge. Medicine, moreover, is progressive; and the competent practitioner who is to do his patients justice, and to keep abreast of the times in information of disease, must be always exercising afresh his faculties of observation and of judgment, and constantly watching the results of others—always, in short, learning. It is, indeed, an old and true saying that a physician who is worthy of the name must be a student until the end of his career.

Your teachers have to bear these facts in mind; and we must not be content with merely "cramming" you for examinations, but must try to equip you with methods of thought and research, as well as with principles and facts, which will be of value to you in the future.

The power of accurately seeing and interpreting natural phenomena can only be acquired by long training and practice, and the modern medical curriculum is, in some measure, calculated to promote the development of the student's faculties. For instance, apart from their direct bearing on surgery and medicine, what better training in minute observation, and in arriving at conclusions where the data are not always clear, can there be than in the proper practical study of Anatomy and Physiology?

In the excellent address to which many of us here present had the pleasure of listening last year, Mr. Stonham showed how very faulty our medical education still is in many

[1] Introductory Address at the Westminster Hospital Medical School.

respects. In most of his strictures I heartily agree. It cannot be too often insisted upon that it is deplorable to see men aspiring to become members of a profession which should be preëminently scientific, and which should be second in culture to none in the land, who not alone are totally ignorant when they enter the medical school of the elementary laws of nature, but who, in some cases, have received but a very imperfect general education. I think, with Mr. Stonham, that no student who is unable to matriculate at the University of London, or to pass an examination of approximately that standard, should be allowed to enter the profession; and I would go further, and recommend that all students, before commencing their special medical studies, should also be compelled to show a substantial knowledge of the principles, especially of chemistry and physics—the sciences, namely, which ultimately underlie the phenomena of health and disease, of life and death, and upon which many of the important subjects of the curriculum are themselves mainly based. I would, moreover, second my friend in his suggestion that the medical course be extended to at least five years; for while the branches of our technical education have been multiplied, and the range of each one has been enormously extended, the time allotted to their study alone has not been officially increased for many years. It may be objected, of course, that if the conditions were made so much more onerous, the supply of candidates for the profession would be materially diminished. But would this be an unmixed evil?

Attention has been frequently called of late to the fact that there are already too many practitioners of medicine, and it is becoming well known that it is impossible for them all to make a livelihood by their calling. Within the last year certain statistics bearing upon the question have been published by a committee of the General Medical Council. It is thereby shown that while the rate of increase of population in England, during the years 1881-86, has been estimated at 1.4 per cent. per annum, the increase of registered practitioners has been at the rate of 2.42 per cent. It is stated that "the net increase of the profession in England during the quinquennium was no less than 826 beyond what was requisite to keep pace with the population, showing an annual excess above average requirements of more than 150." In some places, especially, the plethora of medical men is very great: thus it appears that in 1886 London contained 1943 registered practitioners over and above its due share. If, however, the fully-fledged doctors are as thick as blackberries, the would-be Æsculapians are still more numerous. The average number of registrations per annum of qualified men in Great Britain and Ireland, for the five years ending December, 1888, was 1382, while the corresponding figure for entering medical students, who registered during the same period, was as much as 1921 per annum, and the cry is, "still they come." I do not adduce these figures to discourage you, but I think they forcibly point to two conclusions: (1) That if competition has been severe in the past, it is certain to be still more so in the near future; and (2) that you will all have the greater need for steady work, and for making the most of your opportunities—from the very start—if you are to succeed in the struggle!

I have jotted down some of the qualities which various authorities have stated to be essential to the success of a medical man. First of all there are the four Hippocratic attributes: learning, sagacity, humanity, and probity; and, among a host of others, enthusiasm, diligence and perseverance, reverence, zeal and industry, self-discipline, punctuality and tact, skill, a power to persuade, intention, attention and intensity, integrity, purity and honesty, faith, character, truthfulness, health, hard study, close and diligent observation, a sober and righteous life, humility, sympathy, tolerance of wrong, independence, a strong sense of duty, chivalry, "a love of the profession," and "a readiness to pay a heavy premium in this world for the prospects of reward in the next." I could enumerate a great many more; but perhaps these are enough, gentlemen, to indicate to you what paragons of excellence you must be!

It is true that we occasionally hear of some individual of imperfect education in his work, who has not demonstrated, to his professional colleagues at least, the possession of very many of the above characteristics, attaining by "push," or with adventitious aid, to the position of a so-called "fashionable physician," and gaining a certain amount of reputation among the uninstructed, who cannot detect the fraud. But such instances are, perhaps, uncommon. Considering, indeed, the gullibility of a large section of the public, as evidenced by its unbounded trust in everything which is sufficiently advertised, it is a matter for surprise that the humbug and the charlatan are not more to the fore.

The fact that quacks, in this country at all events, have to hold their heads low speaks well for the growing enlightenment of public opinion. As may be expected, however, the lower class of journalists will sometimes insert, even in the form of articles in the body of the paper, any nonsense for which they are paid, or which they imagine will increase the circulation of their sheets; and in this manner many ignorant persons who still pin their faith upon all they read in the newspapers are frequently duped for the pecuniary benefit of purveyors of universal nostrums and such like. Occasionally, also, we find more reputable journals—probably, no doubt, in all innocence—lending themselves to the self-assertive masked advertisement of some such shady representative of the profession, as I have just alluded to; but is it not astonishing to see, as I did a year or two ago, one of our leading London illustrated papers furthering the interests of a notorious quack by publishing his portrait, with a laudatory biography, and giving, as it were, the stamp of its authority to his unblushingly-absurd allegations. All this may be beneath out notice; but the fact remains that while many a competent practitioner is struggling to 'make two ends meet,' fees which, legitimately, should go to him, find their way into the pockets of unscrupulous adventurers, who thrive on the public credulity and to the general detriment.

Although we conform to the regulations of, and pay considerable sums of money to, Corporations and Councils, which are supposed to have the interests of the medical profession in their keeping, it is apparently for the most part left, as some recent instances testify, to private individuals to go to the expense and trouble of showing up such impostors.

It is satisfactory, however, and only fair, to say that the great organs of public opinion at the present day, show a due appreciation of the rôle of our profession, and are not sparing in their acknowledgments of what a London morning journal has recently called "the inestimable services rendered to mankind by physicians and surgeons"—whom it describes as "that true Legion of Honour, the members of which, officers and men alike, lead noble lives indeed, dedicated to

the alleviation of suffering, to the prolongation of human existence, and to the improvement of the physical conditions in which that existence has to be passed."

When we are helping the sick, or trying to elucidate a problem which may in some way lead to the advance of medical knowledge, we are not thinking of what people will say; but nevertheless such words as those I have just read are some encouragement in our work!

The 'barber-surgeon' is long since extinct, and the hybrid medical tradesman is (or should be) becoming obsolete; the physician of to-day is no longer a mere prescriber of pills and not simply a 'coprogogue,' nor is the surgeon nothing but a 'lopper of limbs' and only worthy of the name of 'Saw-bones.' Voltaire's often quoted *dictum*—that a medical man was one "who poured drugs of which he knew little into a body of which he knew less"—is, indeed, not quite so true now as it was.

We can look with pride at the enormous and steady improvement in the public health, wherever the modern doctor has had his say; we can point to the fact that London—this seething cauldron of human beings—is the healthiest city in the world (in spite of the profusion of doctors!) as a concrete result of the attention paid to the advice of sanitarians.

I have heard a place described by my friend, the Rev. Dr. Haughton, as being so salubrious that nobody could die there. When the very old inhabitants wanted to throw off the mortal coils of this existence they had to go into the next parish! This, however, is not a general experience. We have, indeed, a huge continent of unknown facts in the causation, prevention, and treatment of disease yet before us for exploration. The points of attack are many, and are obvious; and there are plenty of willing and able hands for the work—now, and when you, gentlemen, will be ready for the fray; but the sinews of war, which are as necessary in this campaign as in any other, may be sometimes wanting. It must be admitted that in recent years the State has more and more recognised its obligations to the public weal, and has done much for the science of health, but a great deal is still left to private effort and to individual generosity. We have had to await the initiation, by H.R.H. the Prince of Wales and his Damien Committee, of a much-needed crusade of investigation against one of the terrible scourges of mankind; and we have had to leave gaps in the full knowledge of one of our chief therapeutic aids until an enlightened Indian prince comes forward and handsomely defrays the cost of its adequate re-examination. May some of our Crœsuses nearer home take a hint from his splendid example!

You must excuse me if I take this opportunity of entering a plea for the more thorough study by students of the subject which it is my privilege to teach in this School. We know that the object of most of you in coming here is not to qualify yourselves to become specialists in physiology; and it is also manifest that the time at your disposal for acquiring a real and practical knowledge of such a subject is very limited. We can, indeed, do little more than set you on the way of learning the principles of this, and of many other branches of the curriculum, or than show you how to profit by what you learn hereafter. I am afraid, however, that physiology is not as popular as it might be with the general run of medical students. [N.B.—I do not refer particularly to the pupils of this School, for as we have seen, from an examinational point of view, at all events, our men have not neglected the subject.] This state of affairs, I believe, is partly because men do not seem to grasp the fact that physiology does not consist merely of tables of constituents, series of functions, divergent theories, etc., to be learnt off by heart, but that it is a young science, the data of which are being arrived at by observation and experiment. If students gave as much time and attention to the *things* which are demonstrated to them in the lecture-room and the laboratory, as they do to the *names* which they labour over to commit to memory from their "cram" books, they would not find the subject so very dry. We must remember that the processes of health and disease are not different in kind; they are the effects of the same chemical and physical laws, manifesting themselves under somewhat different conditions. It may truly be said, indeed, that physiology and pathology are part and parcel of one science; there is no distinct line of demarcation between them. There can be no doubt that our knowledge of pathology can be but little advanced except through knowledge and by the methods of physiology. We may safely predict that it will be to the well-trained physiological mind that many of the unsolved problems of disease will the easier and the more surely yield.

It has been said that students can hardly be expected to pay attention to advice which emanates from comparatively young men, or from any, indeed, but the distinguished seniors and pillars of wisdom of our profession. This may be; but a younger man may have a more vivid recollection than his elders of the difficulties of his student days, and a more practical acquaintance with the conditions of student-life of the present generation. At any rate, I shall venture to offer to you some suggestions founded on my experience.

There is considerable difference of opinion among students and others as to the "value" of attending lectures. It obviously all depends upon two things: (1) the lectures and (2) the way they are attended. I can only say that I myself learnt a great deal from lectures, and some of my old note-books are to this day to me more or less useful compendiums of information. I can remember, moreover, that I used to find them very trusty friends indeed on the eve of my examinations! Let me advise you to take down the gist of what the lecturer says. If he knows his business, he will methodise for you the facts of the subject, will emphasise the more important points, and, depend upon it, materially help you to get the best value from your text-books, and from your cases. The art of taking good notes can of course only be acquired by experience; but one soon falls into the way by a little practice. Always correct them when you go home. Sketch all that you can see (there is no need to finish your pictures to the standard of the Royal Academy); a very rough outline will do. Everyone ought to be able to delineate what he sees in some kind of way, and if he cannot the sooner he begins to learn the better. One remembers more or less permanently what one puts down and sees for one's self far better than what one learns by rote from a book. Use you ears, your eyes, your hands—in fact, all your senses if necessary, and satisfy yourselves in every way, as far as you can, that what you read or are told is correct. As I have hinted before, men depend too much upon learning pages of text-books by heart rather than upon tackling their work in a practical manner.

There is one recommendation that I desire to urge. Many of you will find out when it is too late, and will, pos-

sibly, have reason to deplore the omission, that you have not at an early period of your course taken steps to obtain a university degree. You must have observed, in the medical papers, the never-ending controversies over the coveted, although sometimes empty, title of "Doctor." For various reasons—time, money, etc.—the older universities may be inaccessible to some of you, but under the new regulations there will be nothing but a little extra work to prevent any man of ordinary intelligence from attaining to a London degree. Let me strongly advise those who have not already done so to matriculate as soon as possible.

I have said that I profited much from the lectures of my student days. One of the lecturers to whom I owe a debt of gratitude is the brilliant man of science, the Professor of Anatomy of the University of Cambridge, who is occupying the chair on this occasion. I cannot say before him all I would, and could, of Professor Macalister; nor need I detail to you all that he has done for anatomy—that solid ground of our craft—for most of you here are doubtless acquainted with his work. But I must express the peculiar pleasure which I feel in seeing my respected teacher preside in this room to-day.

I have wearied you enough. For your kind patience in listening to my crude and rambling remarks I thank you sincerely. I have one request to make. I ask you to join me in wishing success to the School of the Westminster Hospital!

ON ECTOPIC GESTATION.[1]

By Lawson Tait, F.R.C.S.

Mr. President and Gentlemen,

There is another side to the simple question which you have laid before the meeting in your introductory remarks, and that is, the difficulty one has in selecting a subject that would do honour to the occasion; because, to my immense surprise and, I may add, to my great gratification, I found I had to inaugurate about one of the handsomest buildings ever devoted to the study of the art of medicine. Going over this building this afternoon with Dr. Oliver, I was astounded at the splendour of your installation. I can only say that if your future career in any way corresponds with your buildings, you have a magnificent future before you. As one of the staff of what I may style a rival school, I cordially wish you every success. If we can in any way contribute towards it, we shall be delighted to do so.

To return, however, to the selection of a subject, this was left to me, and I had a good deal of difficulty in coming to a conclusion as to what I should speak about. One may indulge in general platitudes, giving an address which shows how much more we know than our fathers did, at the same time feeling not quite so sure that we know it quite as accurately as they did. Or, on the other hand, one may pick up a special subject, and appeal in detail to the specific advances made. I thought that the second might be the wiser course to adopt; and when at the Leeds meeting I consulted with Dr. Oliver, he agreed that the subject of ectopic gestation, being one which is peculiarly my own, was one upon which I might say something new, at any rate to those who had not read my pamphlet on the subject, and even to some of those who had read it. I therefore chose this subject, which, although rather a special one, occupying in the practice of each individual man no very large field—for none of us see very large numbers—yet when they do occur, these cases place the practitioner in a position of such enormous responsibility, occurring as they do in the most unexpected ways and times, that no subject perhaps presents so much interest to the general practitioner. Ectopic gestation has, too, this additional claim upon your attention—that although it lies in one of the by-paths of practice, still its mysteries have been unravelled in a remarkably short space of time to a very complete extent, not only in pathology, but also in the method of dealing with it satisfactorily, to the relief of suffering and the saving of human life.

You will note that I use the term ectopic gestation; and I would like to say first of all that this term ought to be used exclusively, instead of the older term, extra-uterine gestation or pregnancy. The reasons for this are several. First of all, there is a special variety of this condition which is not covered by the term, extra-uterine pregnancy; and it is always well, when we alter our nomenclature, to alter it in the direction which gives greater precision and covers more ground. We are in the habit of altering our nomenclature often enough from mere fancy. With each in-coming school of pathology there comes a new system of nomenclature, with the result of confusing those who have just left the schools where the latest doctrines were taught. With cellular pathology there was introduced a nomenclature which was disturbed by the molecular theories which subsequently came to the front, and these in their turn have been displaced by the system of pathology based upon the microscopical investigations of lower forms of life. I doubt very much whether the new nomenclature has added very much to our stock of conclusions, though much to our exact information in certain respects. Still, it has disturbed our nomenclature to an extent which is exceedingly confusing, even to a man of my own years. What it must be to one whose hair is grey, and beginning to get thin on the top, I cannot venture to say. I do not, therefore, propose this change without a sound reason for so doing, because the variety of ectopic gestation known as the interstitial is brought within the scope of our term. Then again, the cornual form of pregnancy was regarded as extra-uterine, which is not the case, and it is undoubtedly ectopic. We have, therefore, two conditions which we bring in under the word ectopic, which are not included in the term extra-uterine gestation. Therefore, I maintain that the one word ought altogether to replace the other for the sake of precision and comprehensiveness.

It is difficult in dealing with a subject like this to see clearly what is the best line to follow. We may take the pathological or the clinical classification—and I am not sure that the clinical line is not the best, because I am dealing with the subject for the purpose of helping those who have no time and no opportunity now of following out the intricate details of pathological research, men who are engaged at the bedside, but to whom it is important to know what they ought to do. I will therefore follow it, although it may lead to a little confusion of order. That disadvantage will be compensated for by the clearness I shall gain in addressing those to whom the subject is new, or to whom this term, extra-uterine pregnancy, simply involves a confused notion of a condition far different from that usually met with at the puerperal bedside.

What, then, is the commonest condition with which we have to deal in the matter of ectopic gestation? It is unquestionably the condition in which the catastrophy is so

[1] An Address delivered before the Northumberland and Durham Medical Society, October 4th, 1889.

terrible, that short of a railway accident nothing can be compared with it. One of your patients is suddenly seized with pain in the abdomen; the pain becomes more and more severe, as the hours advance she presents a strange death-like pallor; she vomits; lies on her back; the pulse disappears; the skin becomes cold and clammy; she is clearly dying, and yet there is no very clear ground upon which you can make your diagnosis, and until you inquire into the history you can make nothing out beyond the pain. So sudden is all this, that most of the men who have seen cases of this kind pass on to the *post-mortem* table or into the grave, without a complete diagnosis having been effected, unless indeed the case has happened to fall into the hands of men who have been unfortunate enough to have seen similar cases before. These are the appearances of a woman who is suffering from rupture of the more common form of ectopic gestation. Your patient dies, if not relieved, probably with the true condition unsuspected. A *post-mortem* examination is made; the abdomen is found full of blood; one Fallopian tube is found with a small swelling, and this is found to be the source of the extravasation into the peritoneal cavity. You will find pints of semi-coagulated blood, and when you search for the source of the hæmorrhage, you find it in a rent in the Fallopian tube, from the effects of which your patient has died; this is what we call a ruptured tubal pregnancy, and concerning the pathology of this the greatest confusion existed until very recently; in fact, I may say, with regard to some of the senior members of the profession, the confusion exists at the present time. In support of this assertion I may refer to the report of a clinical lecture which appeared in the columns of the *Lancet* a few weeks since. The lecturer opened his observations with this remarkable sentence, "That only ignorant audacity could presume to make clear the pathology of extra uterine pregnancy." Now I do not know whether it is ignorant audacity on the one side that can make such a charge, or ignorant audacity on the other for attempting to make clear that which was enveloped in obscurity; but if I can succeed in inducing you to believe that the pathology has been made clear, and the treatment precise and successful, then my mission to you will have been accomplished. Let me say that we had, until quite lately, an inherited belief that stood in the way of our understanding the pathology of these cases completely, or indeed at all. Many years ago experiments were made by Lecoste with the view of ascertaining the precise position in which the ovum and spermatozoa met, and impregnation took place. Unfortunately, Lecoste made his experiments upon lower animals, with a bifid uterus, and this has been the source of all the trouble, because the human uterus is single, and the bifidity of the organ is represented by structures which are not uterus at all—viz., the Fallopian tubes. He found that impregnation took place high up the bifid organ, and thought that this was the Fallopian tube, and not the uterus. This led to the mistake that has existed so long. The position in which impregnation took place was not in the Fallopian tubes at all, but in the uterus. Now, normally, the Fallopian tube is lined by a layer of ciliated epithelium, which was supposed to have for its function the sending the ovum down into the uterus, and it was assumed that this function was fulfilled after the ovum had been impregnated. Now we cannot make experiments upon human beings, as upon the lower animals, but we have an unfortunate habit, in many instances, in making experiments upon the latter, of neglecting a precaution which the physicist and the chemist always adopt—viz., of making sure that the conditions of the experiment are the same. Now the conditions of the experiment, it would be found, on careful examination, not to be alike, and the absence of this ciliated layer of epithelium is the precise condition that was neglected. We know now, as nearly as we can know, from the investigations of pathologists, and from direct observations, which will doubtless be completely elucidated before long, that another function for this ciliated epithelium is to prevent the entrance of the spermatozoa into the Fallopian tubes. So long as there is a layer of intact epithelium, the impregnation does not take place there, but only in the uterus. I will not go into the argument upon this point, for the time at my disposal will not allow of it, but some recent researches by A. W. Johnstone and Bland Sutton make it very clear to me. This is the key-note of the subject, and if once grasped makes it all perfectly clear. When the Fallopian tube has been denuded of its layer of ciliated epithelium, these observations show clearly that its surface becomes exactly like that of the uterus, to which the ovum would normally become attached. If there had been a destruction of the ciliated layer, which is not reproduced, then we have the possibility, in the first place, of a spermatozoa entering the tube; and still more important, pathologically and clinically, after impregnation, the ovum may become attached to the walls of the tube, as normally it is to the walls of the uterus. These points granted, the whole thing becomes clear, in spite of the cries of "ignorant audacity" on the subject.

Let us suppose then that this view of the pathology is correct, and everything is clear. Without it everything is as dark as before, but clinical facts and the revelations of the *post-mortem* room fit in so admirably with this assumption, that it is absolutely impossible now to imagine that this hypothesis upon which we are working is anything but perfectly exact.

We will assume then that this later physiology is an improvement upon the older view, that impregnation takes place in the cavity of the tube, and that the attachment of the ovum takes place upon the wall, in consequence of the loss of the ciliated epithelium. Here, however, let me diverge into the clinical aspect of the cases for a moment, and tell you what the history of these cases nearly always is. You will find that the great majority of the cases occur in women who either have never been pregnant, though married for years, or, who have had two or three children followed by an interval of sterility of some years' duration. Now this one clinical fact shows clearly enough that the preventing mechanism was out of gear; that there was something wrong. The intervention of a period of sterility shows that some accident had happened. Then the examination of the tubes will show distinct evidence of mischief. One authority, Dr. Griffith, of St. Bartholomew's Hospital, told me the other day that he was perfectly satisfied as to the correctness of my conclusions that desquamative salpingitis had been well worked out and proved. In many instances then you have a clear history of tubal disease. I cannot go further into this point, because it would take up too much time, but the history generally shows clearly that damage has been done to the tubes prior to the abnormal gestation. Here then we have proof number one of the accuracy of our views. We will now turn to the progress of each condition. Impregnation has taken place, and the ovum has become

attached to the walls of the tube, and goes on growing. We have now to speak of the conditions based upon divisions of the tube, which are largely artificial, but artificial though they be, they have many conveniences to recommend them. You are all of you familiar with the appearances and anatomy of the Fallopian tubes. You know that there is a small part of the tube which is buried in the uterine substance. Then there is another part of the tube which is perfectly free, except that it is kept in place by a meso-salpinx, which is a duplicature of the peritoneum running up one side and down the other, thus enveloping the tube, but allowing of perfect freedom of movement. Now this duplicature of the peritoneum is one of the most important structures in the whole female body. For the purposes of the present discussion, therefore, I ask you to bear it well in mind. Then we come to the division which is known as the infundibulum. This is supposed at intervals, more or less periodical, to be applied to the ovary for the purpose of receiving the ovum ready to pass into the uterus. Whether this view is correct or not remains to be proved, but it is in any case a very interesting subject. At one time, I myself believed that this did take place, but I am now disposed to regard the statement as a myth. It matters little, however, for our purpose whether it takes place or not.

Another point to be discussed is the view that impregnation sometimes takes place in the ovary; that the spermatozoa travel up the Fallopian tube, and spread themselves out over the ovary, and infect the ovum at the moment of its escape. That can be seen readily enough in some of the lower animals who are not provided with Fallopian tubes, and the error arose from the application of these observations to the human female. Now this question, largely asserted upon one and the other side, rests upon the point, Does ovarian pregnancy ever occur? Is there such a variety of ectopic gestation as ovarian? Well, I have examined personally all the specimens to which I have been able to get access, and I have investigated every such case that has ever been put upon record. All I can affirm is that so far no such occurrence has been proved to have taken place. The proof which we demand for an occurrence of this kind is; that a cavity be found in the structure of the ovary; that the walls of the cyst consist largely, if not solely, of ovarian tissue, as demonstrated by the microscope; and that the contents of the cyst consist largely of fœtal structure; or if not fœtal structure, then placenta; and if neither of these three conditions can be substantiated, the case must be put aside, and disregarded as evidence in proof thereof.

I do not mean to say that the thing is impossible, but I mean to say that so far it has not been satisfactorily established. Some of the cases published as such are based on ludicrously erroneous evidence. Not long ago, in the *Transactions* of the Gynæcological Society of America, a case was put on record as a case of ovarian pregnancy. Great care is therefore required in admitting such cases as evidence. It does not matter for clinical purposes whether it is proved or not; if so, the subject is all the more interesting, but I do not suppose it would differ in its clinical relations from a tubal pregnancy. The patient would be exposed to the same dangers, and it would have to be dealt with in the same way.

As regards tubal pregnancy, there is an ample supply of specimens which prove occurrence of all the three forms in the infundibulum, in the middle part of the tube, and in the interstitial part. Now, I may dismiss the interstitial variety with a few words. First of all, it is the rarest; for although I have perhaps the largest experience of any one man of this curious displacement, I have only seen one such case, and I know of only six mounted specimens in this country in which this lesion indubitably exists. It is rare, it is inevitably fatal, for we get no notice as to when rupture is going to take place, and the patient dies before anything can be done. The period at which rupture takes place—that is, when the tube gives way—may be deferred as late as the sixth month, and seldom occurring before the fourth. The tissues are then so vascular that it is only a matter of a few minutes before the patient dies. Alluding particularly to my own case, I fail to see how any human power could have saved her, even if we had been there at the time. The condition is simple enough; an attachment has taken place of the ovum to the tube within the structure of the uterus. There it remains, and expands nearly always in an upward direction, and the rupture takes place on the fundus of the uterus. The rupture is extensive, usually four or five inches in length, and the hæmorrhage is consequently terrific. Nothing could save her but hysterectomy, and by the time the diagnosis is made, all chance of an operation so grave as hysterectomy proving successful would be gone. All the specimens I have seen are identical in character, and it is very fortunate that a variety in which we can do so little, and in which the consequences are so terrible, should be so rare.

We may then pass on to the consideration of the other two varieties. I will dismiss the infundibuliform variety by saying that it, too, is extremely rare. I only know of two well authenticated cases—I will not say on record, for such cases are generally recorded by gentlemen who have too little experience of the method to be followed in establishing these cases, and of the points to be demonstrated. Therefore, when we see figures, except by skilled anatomists or experts in pathology, we have to discount the statements concerning them. For instance, Dr. Granville is quoted as having proved ovarian pregnancy up to the hilt by Dr. Campbell, who actually quotes his pamphlet and plate as quite satisfactory. Now, Dr. Granville's book is very rare, and it took me four or five years to find a copy. When I did so I found the description absolutely incorrect. There was nothing in the plate at all to represent either placental or fœtal tissue, and the text was as follows: "That Dr. Granville was assured by Sir James Clark that thirty years before he had seen a fœtus hanging free in the cavity." I have seen the specimen but can make nothing of it. Where the specimen is in a museum properly put up, you can go back a century, as is the case with the specimens so admirably put up and described by Hunter. Therefore I say that there are only three such examples. It would matter very little, however, if there were more; it would only be a pathological curiosity. Its bearings are precisely the same as the variety now to be spoken of—viz., pregnancy in the middle part of the tube. Let me now remind you of the structure of the Fallopian tube, for this is a fact of the greatest importance. Inside there is the lining of mucous membrane covered with ciliated epithelium, and outside is the peritoneal investment; between the two are clearly defined layers of muscular fibres, longitudinal and circular. The mucous surface is of importance, because its denudation, according to our belief, is the primary cause of the misplacement. The muscular coat has probably some peristaltic action in assisting the ovum and fluids down the tube.

This movement is often seen in operating upon the uterus for myoma, when the vertiform movement follows the removal of the uterus. Of all the layers, however, the peritoneal layer is of the greatest importance, because it is according to the way in which the peritoneal layer behaves, or rather how it is treated, that the ultimate issue depends. Let me call your attention to this diagram; the two folds on the top are supposed to represent the meso-salpinx, which run off from the the flexure of the tube. The ovum, to start again from the point of its growth, goes on developing, and though it is true that the Fallopian tube is capable of a certain amount of distension, this is sharply limited provided the walls are not damaged. The tube is probably capable of the same amount of distension as the gall-bladder or the urinary bladder.

DIAGRAM OF THE TWO VARIETIES OF TUBAL RUPTURE.

1. Into the broad ligament.
2. Into the peritoneum.

a. Blood clot from rupture, opposite placenta. b. Muscular wall of tube. c. Broad ligament.

Beaseley narrates a case in which the Fallopian tube was dilated to such an extent as to hold thirty pounds of fluid. I have myself seen thirteen or fourteen ounces of fluid. On the wall of the tube, however, becomes developed an organ which weakens them; I mean the growth of the placenta. The formation of large venous sinuses on the site of implantation of the placenta diminishes the ability of the tube to distend, and it tears. This coincides with the formation of the 'cake' of the placenta. Up to a certain point the placenta is diffused as a villous layer, but at about the eighth week it becomes restricted to one spot, and this goes on until you get what is called the placental cake. I do not know that the development of this placental cake has an all powerful influence in determining the rupture, but it certainly exercises some influence. The rupture always takes place before the time of the limit of the formation of this placental cake, and the time of the rupture is therefore clearly limited to the twelfth week; I have never met with one later than that. Now the rupture may take place in one of two directions, as indicated in the diagram. In one case the placental cake may have formed upon the site where the layers of peritoneum, having gone round the flexure of the tube, meet; or it may form, on the other hand, upon some part of the wall which is closely surrounded by peritoneum. In the first instance the rupture takes place into the broad ligament; in the latter, into the peritoneal cavity. Although I have been preaching on this subject for twelve years, I have failed to get my professional brethren to see what an enormous difference this makes to the subsequent progress of the case. It means that if this hæmorrhage takes place into the peritoneal cavity it is uncontrolled. If you put a bleeding surface under water you remove one of nature's great hæmostatics—viz., coagulation. If you have bleeding going on into a confined space, which is capable of only limited extension, especially if that space be filled by something that is capable of inducing coagulation, such as irregularly distributed fibres, you have a strong means of arresting hæmorrhage, whereas if the cavity be indefinite in its capacity, there is a corresponding absence of the cause of coagulation. You have here an explanation of the different endings of these cases. In rupture into the peritoneum the bleeding practically goes on unchecked. Everyone knows how if a vessel has not been properly tied, or if a ligature has slipped after ovariotomy, there are no means of checking the hæmorrhage, because the blood does not properly coagulate, and a little vessel from an omental adhesion, which would not be of the slightest consequence in an amputation, would be sufficient to cause death after an ovariotomy. You have thus, in the one case, every possible condition favourable to the continuation of the hæmorrhage; while when the rupture takes place into the cavity of the broad ligament, you have all the conditions favourable to the arrest of the hæmorrhage, hence the latter is rarely fatal. Here then we have a great natural difference between these two varieties of tubal pregnancy: one has no natural tendency to cure, and the other has them all. In the one case you have to do with a patient who will die inevitably unless you interfere, in the other you have a condition which you may safely leave alone. In the one case you have hæmorrhage into the peritoneal cavity, and on the other you have it intra-peritoneal into the broad ligament; and I think I have made it clear that the prognostic importance of the two is as different as it can well be.

Now as to the diagnostic difference between the two. It is very simple, if you think for a moment what the relations of the broad ligament are. Curiously enough, a few weeks ago there was published a case by Dr. Thomas, of Leicester, which is a model of first-rate clinical description, on a case of extra uterine gestation, followed by recovery. He however had not the light that I have endeavoured to shed, or he would better have understood the significance of what he has so well put on record. Within forty-eight hours I had another case, which I might read to show an example of the other class, where death would have resulted in another hour.

You have then to recognise two different varieties, one of intra-peritoneal, and the other of extra-peritoneal hæmorrhage. Now intra-peritoneal hæmorrhage may arise from various causes, such as injury, or from imperfectly checked bleeding after operation. But extending such causes, and speaking from my own experience, and as a gynæcologist, it has only one origin, and that is, rupture of a tubal pregnancy. Mark you, I do not say that there are no other causes, but I have never met with them. To my mind, for all practical purposes, intra-peritoneal hæmatocele and ruptured tubal pregnancy are one and the same thing. And now, what are the symptoms and physical signs? Concerning

intra-peritoneal hæmorrhage I may say hardly anything at all. You palpate gently, and you have obscure fluctuation; very difficult to make out even when the amount of effused blood is large; percussion gives nothing very remarkable; you get dulness here and resonance there, but nothing to indicate categorically what is the precise condition. Vaginally you feel an indistinct boggy swelling in Douglas's pouch, but there is nothing very clear about that either. But the relations of Douglas's pouch are practically unaltered. In the extra-peritoneal variety there may be fifty different causes, such as sudden arrest of menstruation by chill, etc., but I fancy the worst cases I have seen of this kind have been caused by tubal pregnancy ruptured in the broad ligament. Here the signs are positive, and in the first place you have a smooth, tense, rounded tumour in the pelvic region, sometimes reaching almost or quite up to the umbilicus. This is the broad ligament dissected upwards and distended by the blood effused. There is distinct fluctuation. On examination of the pelvis you have a condition which is absolutely distinctive—viz., the whole of the roof of the pelvis is fixed and coming down from each side of the uterus, you have processes of induration extending, just as the ceiling of this room might be were it in wood. You have a more or less flat topped roof, and groins down each side, which indicate the burrowing of the blood along the pelvic fascia. Then there is another condition almost certain to occur if the case be a severe one—viz., stricture of the rectum. I had such a case yesterday. Think for a moment that the broad ligament comes off from the uterus, it gradually opens one fold on either side of the rectum, and if blood dissects it up one of the roads will be on to the front of the rectum and around it, and you have an annular stricture of the rectum, which will not disappear for many months. Now let us go back to the history. First, the history of sterility, then the suspicion of pregnancy. The patient *thinks* she is pregnant. There may be irregular discharges, sometimes profuse menorrhagia, but not often a clear history suggesting pregnancy. But if you have the acute condition, what you want to determine is, is the blood in or outside the peritoneum? and this you can determine on the data on which I have given you. If the symptoms are negative, then the hæmorrhage is *inside* the peritoneum; if otherwise, then outside. I think now you will understand why one gets angry, that men should constantly be telling you that you are urging them to open an extra-uterine hæmatocele. I do nothing of the kind except in one particular case—viz., when the distension of the broad ligament is such that rupture has taken place into the peritoneum. Here the conditions are the same as in intra-peritoneal hæmorrhage. I have never seen such a case, but if I had I should have treated it as if it were a primary rupture of the tube into the peritoneum.

Now let me discuss the conditions of the second variety—the case where rupture has taken place into the cavity of the broad ligament. These are most easily indicated, and easily disposed of. In the act of rupture the ovum is destroyed. The case then resolves itself into a simple broad ligament hæmatocele, which is to be left alone. It will be absorbed, only the convalescence will be prolonged. I advise you to leave these cases alone. Many of my brethren have bitterly regretted having tapped them, because if you lessen the pressure you take away the hæmostatic effect of the pressure, and the cyst will refill, and the woman will as surely die from loss of blood as if the hæmorrhage had taken place into the peritoneum. The cases that go wrong are those that are injudiciously interfered with. If the blood is absorbed, there is an end of the trouble. Sometimes, perhaps in one in ten of the cases, the ovum is not filled, the hæmorrhage being smaller. Then it goes on developing into a series of conditions which I will briefly run over. It may go on into the fourth or fifth month, and then die. This is a very common ending of the broad ligament pregnancy. When it dies it still should be absorbed, or it may suppurate, and then you get those extraordinary cases of abscess bursting into the bladder or rectum, or at the umbilicus, with the discharge of fœtal bones at about the fourth or fifth month. These cases prove clearly enough where the fœtus has been; because if you look at your anatomy you will see that the places from which the discharge will take place are those of election in cases of abscess in the broad ligament from any cause. Its cavity is in immediate relation to the anterior wall of the rectum, and therefore the history of these cases is full of instances of discharge of the fœtal bones *per rectum*—less commonly into the bladder. Then, again, the fœtus may not die, but may go on to full time, distending the peritoneum; and it is extraordinary to what extent this can be carried on. Here is a diagram taken from a frozen specimen, in which the whole peritoneum is lifted off the anterior wall of the uterus, and rises up here, and is lifted off the posterior wall of the bladder, and then left, coming down half way between the umbilicus and the pubes.

After all there is nothing wonderful about that when we reflect what takes place with the pregnant uterus. The whole of the fœtus in such cases is thus extra-uterine. There is nothing inside the peritoneum, proving that the view I took many years ago was the correct one—viz., that these full-time pregnancies were extra-peritoneal. This looks absurd, but Dr. Berry Hart's specimen proves it completely. One of his actual sections is before you in order that you may have visible testimony of the accuracy of the views I initiated. Now, what must be done if it goes on to full time? The only course open to you is to operate and remove a living child. The older treatment was to give doses of morphia, or use electricity, to kill the child. But it must occur to all of you that when they are killed by nature they are not pleasant things to deal with after all. When suppuration takes place in the dead ovary it may go on for years. Considering that we have now made five successful removals out of seven operations I think that the moral question of procuring the death of the child is very serious. I do not pretend to be better morally than my fellows, but I would not go out of my way to kill a child which had every right and every chance of living if we will only interfere. You must remember, too, that these ectopic children are probably the only children these women have. As to the prejudice of their being deformed, I can only say that I have three of them growing up around me, and they are healthy and well-formed in every respect. I have never countenanced the employment of electricity in the treatment of these cases of extra-uterine pregnancy. I would let the electricians and others try their experiments, and when they come forward with better results than mine I will take a back seat. I receive with as much respect as possible the statement as to the value of electricity in the treatment of these cases, but I am content to go on my own way and await the judgment of my fellows. At any rate, it is perfectly certain that if you attempt to kill the fœtus before

the rupture takes place you may have good grounds for what you say. The idea is feasible enough. Given a case of tubal pregnancy before rupture of the tube, kill the fœtus and you may save your patient the risk of a rupture. But there is a hitch, and it is this: I have now seen some ten cases of tubal gestation, and I have never had a chance of examining any but one before the rupture had taken place. The first thing we know of these cases is the patient lying on her back with her legs drawn up, collapsed, and suffering severe agony. Of course, if the electricians can spot these women as they are walking along the street well and good; but if they have to rely on the ordinary methods of diagnosis then their treatment will not have much of a show. Again, if the bleeding is into the peritoneum, of course no needle, electrical or otherwise, will stop that; and if the bleeding is into the broad ligament there is, as I have shown, no need for it. After the seventh month the killing of the fœtus does not relieve your patient from the risks of an operation, *toute au contraire*. The risks of suppuration which are sure to follow are enormous. If, on the other hand, you wait until full time, you can remove a living child.

Now then we come to the most important part. When your patient is dying from the effects of a rupture in tubal pregnancy, what are you to do? The course to pursue was indicated a hundred years ago with the utmost precision, and is now embodied in an aphorism of surgery—viz., in case of hæmorrhage, get at the bleeding point and apply a ligature; the same rule applies here. We know that the source of the hæmorrhage is in one of the vessels of the broad ligament. You open the abdomen and find it full of blood and clots. Do not at first trouble about the blood, but go straight for the broad ligament, or to where a swelling is felt; and if it is not on one broad ligament it will be on the other; then pull it up, put on a ligature, and your patient is saved. In order to sum up what I have to say, let me read the account of the last case in which I operated only a few weeks ago.

On the morning of August 20th, at 1 p.m., Dr. Nelson, of Birmingham, called upon me in reference to a young married woman, æt. twenty-six, whom he had seen that very morning. She complained of a sudden attack of violent pain in the lower part of the abdomen. She rapidly got worse, and when seen by him she was already in a state of collapse. She was acutely anæmic, and presented all the classic symptoms of abdominal hæmorrhage. The one point in the history that gave a clue to the case was that she had gone six weeks over her time without menstruating. He made the diagnosis of ruptured tubal pregnancy, and I had little hesitation in agreeing with him. The patient was brought to the hospital as speedily as possible, and she was found to be absolutely pulseless. I opened the abdomen, and, as one of the spectators afterwards said to me, the rush of blood was as if I had opened a hydrant. Disregarding the blood and clots for the time being, I went straight for the fundus of the uterus, and in a moment discovered that a tubal pregnancy existed, and had ruptured in the right Fallopian tube. I promptly ligatured it, and then proceeded to remove the blood and clots. I then closed the abdomen, leaving in a drainage tube. Not another drop of blood was lost, and the further progress of the case is as follows: At 5 p.m. on same day her temperature was 36°C., and no pulse could be felt, except deep down in the neck. The pupils were widely dilated, and the only sign of life was some slight movement of the diaphragm. The complexion was waxy and sallow. By 11 p.m. the temperature had risen to 38°C., but still no pulse was perceptible at the wrist. It was only thirty-eight hours after the operation that it was possible to count the pulse.

In Dr. Thomas's case the pregnancy ruptured outside the peritoneum, in this it was inside. The trouble in both cases was the same, but in one case the hæmorrhage was limited by the hæmostatic influence of the broad ligament, while in my case there were none of nature's efforts to arrest the hæmorrhage, and in another hour it must infallibly have been fatal. The case was seen and the operation performed in the presence of Dr. Nelson, my assistant (Dr. Teichelmann), Dr. Ostrom, of New York, Dr. Arthur Johnstone, of Danville, Kentucky, and Dr. O'Callaghan, of the city of Carlow, and it constitutes the forty-seventh case of the kind I have operated upon. Why, then, should we let these women die? Surely it is some advance if we can remove from the list of catastrophes of our art at least one such as this, which we claim to have done.

THE MEDICO-ETHICAL TEACHINGS OF OLIVER WENDELL HOLMES.[1]

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The life and writings of Oliver Wendell Holmes in their literary bearings are so well known, that it is surprising that his medico-ethical teachings which pervade all his writings have been so persistently overlooked. Our profession cannot boast of many who have earned lasting reputations in the literary world, and at the same time have clung with ever-vigilant fidelity to the traditions of all that is best and most progressive in medical life. Holmes is certainly one that we all ought to feel proud of, and we cannot afford to ignore the noble precepts he has given for our guidance. I undertook to fill this literary gap in the hope that it may lead others to undertake the amplification it so well deserves.

It was a puzzle to know how to arrange the subject, and I have preferred, for convenience sake, to adopt the chronological method, and to take his books more or less in the order they were written, and to let him as much as possible speak for himself. This method will perhaps sometimes cause me to resort to repetition which, after this word of explanation, you will understand, and I hope excuse.

Holmes is no longer young, as he was born in 1809, to which year he refers in his chatty reminiscences of his last visit to England as follows: "The year 1809, which introduced me to atmospheric existence, was the birth-year of Gladstone, Tennyson, Lord Houghton, and Darwin. It seems like an honour to have come to the world in such company, but it is more likely to promote humility than vanity in a common mortal to find himself coeval with such illustrious personages."

Holmes took his degree of M.D. at Harvard in 1836, and practised as a physician at Boston 1836-38 and 1840-7. In 1838 he was appointed Professor of Anatomy and Physiology in Dartmouth College, which post, however, he only retained for two years. In 1847 he was appointed to a similar post at the Harvard Medical School, which he held for thirty-five years, and only resigned it in

[1] Paper read before the Manchester Medico-Ethical Association, September 27th, 1889.

1882. At this period we have a delightful glimpse of his life from Mary Russell Mitford, in her "Recollections of a Literary Life." She says: "Dr. Holmes is still a young man, and one of the most eminent physicians in Boston. He excels in singing his own charming songs, and speaks as well as he writes, and after reading even the small specimens of his poetry that my space has enabled me to give, my fair readers will not wonder to hear that he is one of the most popular persons in his native city. He is a small, compact little man (says our mutual friend), the delight and ornament of every society that he enters, buzzing about like a bee, or fluttering like a humming bird, exceedingly difficult to catch unless he be really wanted for some kind act, and then you are sure of him."

This brief biographical sketch is necessary in order to show that by training, natural gifts, and varied experience, Holmes is eminently fitted to discourse on medical ethics. Sure it is also that our profession would be far otherwise than we find it, if more followed the noble example of his life.

Holmes is best known to English readers through the Breakfast Table Series—"The Autocrat," "The Professor" and "The Poet." These were all written when our author was comparatively young. They contain less direct references to medical ethics than some of his latter works, but even in these we notice some very pertinent sayings. In the "Latter Day Warnings," a short poem in "The Autocrat," after dilating on the duties of legislators, haberdashers, preachers, and property dealers, there is a fund of philosophy in the two lines:

"When lawyers take what they would give.
And doctors *give* what they would *take*."

He evidently despairs of the attainment of this high ideal, for he winds up:

"But when you see that blessed day,
Then order your ascension robe."

The medical elements are much more noticeable in "The Professor."

In the opening chapter, referring to drugs, he says: "Here, look at medicine—bigwigs, gold-headed cane, latin prescriptions, recipes a yard long, "curing" patients by drugging as sailors bring a wind by whistling, selling lies at a guinea a piece; a routine, in short, of giving unfortunate sick people a mess of things either too odious to swallow or too acrid to hold, or if that were possible, both at once." He is referring later on to homœopathy in very severe terms. "Not that the wiser part of the profession need him (Hahnemann) to teach them, but the routinists and their employers, the "general practitioners," who live by selling pills and mixtures, and their drug-consuming customers, had to recognise that people could get well—unpoisoned."

The following lines are worth remembering by those of us that are apt to look upon ourselves in our professional capacities as *in* the world but not *of* it.

"You can't keep gas in a bladder, and you can't keep knowledge tight in a profession. Hydrogen will leak out and air will leak in, through india-rubber, and special knowledge will leak out and general knowledge will leak in, though a profession were covered with twenty thicknesses of sheep-skin diplomas. By Jove, sir, till common sense is well mixed with medicine, and common manhood with theology, and common honesty with law, *we the people*, sir, ... will crash down on the lumps of nonsense in all of them, till we have made a powder of them like Aaron's calf."

Referring to the fact that the three learned professions have but recently emerged from a state of *quasi-barbarism*, the Professor says "We must keep the doctors awake by telling them they have not shaken off astrology and the doctrine of signatures, as is shown by the form of their prescriptions, and their use of nitrate of silver, which turns epileptics into ethiopians. . . . . A few score years ago, sick people were made to swallow burned toads and powdered earthworms, and the expressed juice of wood-lice. . . . . *Traces* of barbarism linger even in the greatly improved medical science of our century." Thank thee, O kind professor, for thy over-indulgence to our noble profession expressed in the word "traces!"

In our relation with patients we might well bear in mind the professor's advice to those about making the choice of a physician, viz: "Be sure you get one if possible with a cheerful and serene countenance. A physician is not—at least ought not to be—an executioner; and a sentence of death on his face is as bad as a warrant for execution signed by the governor. As a general rule, no man has a right to tell another by word or look that he is going to die. It may be necessary in extreme cases; but as a rule, it is the last extreme of impertinence which one human being can offer to another."

In a discussion on as to whether the art of healing makes men hard-hearted and indifferent to human suffering, we have a delightful sketch of the ideal doctor in these words: "You may be sure that some men, even among those who have chosen the task of pruning their fellow-creatures, grow more and more thoughtful and truly compassionate in the midst of their cruel experience. They become less nervous, but more sympathetic. They have a truer sensibility for others' pain, the more they study pain and disease in the light of science."

In the Poet, the last of this series, there are some very amusing but highly instructive references to the young doctor, Benjamin Franklin. "The young doctor has a very *small* office and a very *large* sign, with a transparency at night big enough for an oyster-shop. These young doctors are particularly strong on what they call *diagnosis*, an excellent branch of the healing art, full of satisfaction to the curious practitioner, who likes to give the Latin name to one's complaint; not quite so satisfactory to the patient. . . . . Sometimes, in fact, one would a little rather not know the exact name of his complaint, as, if he does, he is pretty sure to look it out in a medical dictionary, and then if he reads *This terrible disease is attended with vast suffering, and is inevitably mortal*, or any such statement, it is apt to affect him unpleasantly."

The description of the doctor's office is racy: "There were ophthalmoscopes, rhinoscopes, otoscopes, laryngoscopes, stethoscopes, thermometers, dynamometers, sphygmographs, pleximeters, and probes and probangs, and all sorts of frightful inquisitive, exploring contrivances; and scales to weigh you in, and tests, balances, pumps, and electro-magnets and magneto-electric machines; in short, apparatus for everything but turn you inside out."

The description of the interview is excellent of the doctor's examining the discoloured spot "with a superhuman air of sagacity, with much corrugation of forehead and fearful concentration of attention!"

After dwelling on this most interesting and rare affection, and asking if there was any objection to showing the case to the Society of Medical Improvement and Medical Observation, hints are given about Morbus Addisonii! So he gave me a recipe, said the Poet, which I took care to

put where it could do no hurt to anybody, and I paid him his fee (which he took with the air of a man in the receipt of a great income) and said "good morning" . . . . Ask landlady to look at it. Said it was a bump, and no mistake. Recommended a piece of brown paper dipped in vinegar . . . . discoloration soon disappeared!

The next interview, after Dr. Benjamin had more experience, was more satisfactory. The Poet had an ugly cut from the carving knife. "It was astonishing to see what a little experience of miscellaneous practice had done for him. He did not ask any more questions about my hereditary predispositions on the paternal and maternal sides. He did not examine me with the stethoscope and the laryngoscope. He only strapped my cut and informed me that it would speedily get well by the "first intention."

Holmes has written three novels, all full of medical interest, namely, "Elsie Venner," "The Guardian Angel," and "Mortal Antipathy." To begin with "Elsie Venner"; this is not the place to describe the plot and purpose of the story; I shall therefore only dwell on the parts particularly referring to our subject-matter. Towards the end of the book we have the following description of Dr. Kettredge:

"The old doctor was a model for visiting practitioners. He always came into the sick-room with a quiet, cheerful look, as if he had a consciousness that he was bringing some relief with him. The way a patient snatches his first look at a doctor's face, to see whether he is doomed, whether he is reprieved, whether he is unconditionally pardoned, has really something terrible about it. It is only to be met by an imperturbable mask of serenity, proof against anything and everything in a patient's aspect. The physician whose face reflects his patient's condition, like a mirror, may do well enough to examine people for a life insurance office, but does not belong to the sick-room. The old doctor did not keep people waiting in dread suspense, while he stayed about talking the case—the patient all the time thinking that he and his friends are discussing some alarming symptom, or formidable operation which he himself is by and by to hear of." This is a hint for young practitioners.

"He came to her (Elsie's) bedside in such a natural, quiet way, that it seemed as if he were only a friend who had dropped in for a moment to say a pleasant word."

There are, I hope, many and an ever-increasing number to whom the following paragraph would apply; at any rate, it contains food for reflection from an ethical point of view:

"Some very silly people thought the old doctor did not believe in medicine, because he gave less than certain half-taught creatures in the smaller neighbouring towns, who took advantage of people's sickness to disgust and disturb them with all manner of ill-smelling and ill-behaving drugs. To tell the truth, he hated to give anything noxious or loathsome to those who were uncomfortable enough already, unless he was very sure it would do them good. . . . . Sometimes, he lost a family of the more boorish sort, because they did not get their money's worth out of him . . . . "

There is much in the life-story of Bernard Langdon from his medical student-days upwards that could be dwelt upon with profit, but we must hurry on and glean some fruits from the next delightful story of "The Guardian Angel."

One of the most important references to this subject is the interview between the old scholars, Byles Gridley, A.M., and young Dr. Hurlbutt, respecting the relationship between the doctor and his young hysterical patient Myrtle Hazard. Dr. Hurlbutt had come to a cup of tea, and afterwards Gridley showed him some old books, and among others, a copy of Fœssius' edition of Hippocrates, and asked the question whether he (the doctor) was conversant with the famous oath, and laid special emphasis as he read:

"My life shall be pure and holy,
"Into whatever house I enter, I will go for the good
"Of the patient: I will abstain from inflicting any
"Voluntary injury, and from leading away any, whether
"Man or woman, bond or free."

And then followed with these words:

"Dr. Fordyce Hurlbutt, are you not in danger of violating the sanctities of your honourable calling, and leading astray a young person committed to your sacred keeping?" Hurlbutt acknowledges that he stands convicted and goes away and leaves the case in his father's care. Myrtle is very violent and frantic at times, but at last calms down, and in referring to this, Holmes utters these weighty words:

"But all this series of mental disturbances left her in a very impressive and excitable condition. This was just the state to invite the spiritual manipulations of one of those theological practitioners who considers that the treatment of all morbid states of mind, short of raving madness, belongs to them and not to the doctors. The same condition was equally favourable for the operations *of any professional experimenter* who would use the flame of religious excitement to light the torch of an earthly passion. So many fingers that begin on the black keys, stray to the white ones before the tune is played out."

There are many short sayings in this volume which plainly indicate how high Holmes' Ethical ideas are; *e.g.*, in reference to Myrtle's case:

"Few households have ripened a growth of womanhood without witnessing some of its *i.e.* (hysteria) manifestation, and its phenomena are largely traded in by scientific pretenders and religious fanatics."

One more extract from Gridley's "Thoughts on the Universe."

"Idols and dogmas in place of character;
"Pills and theories in place of wholesome living."

I shall be content with only one extract from the third novel; in many ways a remarkable book. I refer to "Mortal Antipathy." It refers to the ethics of doctors discussing matters of private interest with their wives. I shall not enlarge as Holmes exactly hits off the danger:

Dr. Butts carried these questions with him. His wife was a sensible, discreet woman, whom he could trust with many professional secrets. He told her of Paolo's revelation, and talked it over with her in the light of his experience and her own; for she had known some curious cases of constitutional likes and aversions.

Mrs. B. buried the information in the grave of her memory where it lay for nearly a week. At the end of that time it emerged in a confidential whisper to her favourite sister-in-law, a perfectly safe person. Twenty-four hours later the story was all over the village. . . . Referring to this later on and speaking of Dr. Butts, it is written:

"He would be a little more careful, he promised himself the next time, at any rate, for he had to concede, in spite of every wish to be charitable in his judgment that it was among the possibilities that the worthy lady had forgotten

the rule that a doctor's *patients* must put their tongues *out*, and a doctor's *wife* must keep her tongue *in*."

Now I come to the last volume—viz., "Medical Essays," from nearly each page of which some words of wisdom might be culled. The well known essay on "The Contagiousness of Puerperal Fever" I would particularly invite every member of the profession to peruse carefully. Holmes brings plenty of proofs for the assertion that medical men have been, and may still be, the means of bringing infection from house to house, especially during the puerperal period, and the eloquent winding up of this essay deserves the highest place not only on account of its deep humanity and pathos, but also its splendid literary style.

"It is as a lesson rather than as a reproach that I call up the memory of these irreparable errors and wrongs. No tongue can tell the heart-breaking calamity they have caused; they have closed the eyes just opened upon a new world of love and happiness; they have bowed the strength of manhood into the dust; they have cast the helplessness of infancy into the stranger's arms, or bequeathed it, with less cruelty, the death of its dying parent. There is no tone deep enough for regret, and no voice loud enough for warning. The woman about to become a mother, or with her new-born infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden, or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degradation, when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall, at a word which reveals her transient claim for mercy. The solemn prayer of the Liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at the eventful period, should hazard it negligently, unadvisedly, or selfishly!"

The next essay, "Currents and Counter Currents in Medical Science," is full of good advice. We learn how professional success should be won "by toil, patience, good sense, pure character, and pleasing manners;" we are shown the dangers of the so-called *practical* man who asks no question of the past or of the future, or of the aim and end to which his special labour is contributing. Such a one we are warned may be building truth into the wall, or hanging humanity on the Cross.

The practice of making profit out of medicines is spoken of in the severest terms, and some of the most scathing diatribes ever uttered against this practice, and against the abuse of drugs, will be found in this essay. It is here that Holmes says . . . . "if every specific were to fail utterly, if the cinchona trees all died out, and the arsenic mines were exhausted, and the sulphur regions were burned up; if every drug from the vegetable, animal, and mineral kingdom were to disappear from the market, a body of enlightened men, organised as a distinct profession, would be required just as much as now, whose province should be to guard against the causes of disease, to eliminate them if possible when still present, to order all the conditions of the patient so as to favour the efforts of the system to right itself, and to give those predictions of the course of disease which only experience can warrant, and which in so many cases relieve the exaggerated fears of sufferers and their friends, or warn them in season of impending danger. Great as the loss would be if certain active remedies could no longer be obtained, it would leave the medical profession the most essential part of its duties, and all and more than all, its present share of honours: for it would be the death-blow of Charlatanism, which depends, for its success, almost entirely on drugs, or at least on a nomenclature that suggests them."

Further on, after excluding opium and a few specifics he says; "I firmly believe that if the whole materia medica, *as now used*, could be sunk to the bottom of the sea, it would be all the better for mankind—and all the worse for the fishes."

Holmes insists all through that less reliance on drugs would result in much more care in ordering all the circumstances surrounding the patients. In his tribute to Professor James Jackson there are clear indications of Holmes' ideal physician. His relations to his patients are thus stated: "His smile was itself better than the potable gold and the dissolved pearls that comforted the præcordia of mediæval monarchs. Did a patient, alarmed without cause, need encouragement, it carried the sunshine of hope into his heart, and put all his whims to flight, as David's harp cleared the haunted chamber of the sullen king. Had the hour come, not for encouragement, but for sympathy, his face, his voice, his manner all showed it, because his heart felt it. So gentle was he, so thoughtful, so calm, so absorbed in the case before him, not to turn round and look for a tribute to his sagacity, not to bolster himself in a favourite theory, but to find out all he could, and to weigh gravely and cautiously all that he found, that to follow him in his morning visit was . . . . a medical education."

"He (Dr. Jackson) would have it that to *cure* a patient was simply to *care* for him. I refer to it as showing what his idea was of the relation of the physician to the patient. It was indeed to care for him, as if his life were bound up in him, to watch his incomings and outgoings, to stand guard at every avenue where disease might enter, to leave nothing to chance, not merely to throw a few pills and powders into one pan of the scales of Fate, while Death, the skeleton, was seated in the other, but to lean with his whole weight on the side of life, and shift the balance in its favour if it lay in human power to do it."

Up to the end of life Dr. Jackson was ready to listen to any new suggestion that was likely to be useful. He was most punctual in his appointments, and always endeavoured to visit patients at the hour he was expected, and so avoid much anxiety to a nervous patient and anxious family.

He did his best to produce and maintain a spirit of harmony among the medical community. He endeavoured to see the good points in everybody's character, although he did not love them. These are certainly qualities worthy of the highest member of a noble profession.

I fear we are too ready to think that the bounds of medical ethics are only strained by those members who descend to advertise their wares by placarding their windows with "*Advice and Medicine Six-pence.*" The price charged can surely not affect the principle. The consultant who charges his guineas for a prescription for drugs which are unnecessary and therefore harmful, as well as the general practitioner who measures his day's work by the number of bottles he makes up, and the boxes of pills he sends out, are none the less flagrant offenders against the ethical principles that Holmes contends for. If every medical man asked himself seriously before administering a drug if he conscientiously thought it essential, what a stagnation there would be in the drug-market, and shall I venture to ask it,

what untold benefits to the poor patients? Over-drugging, I fear, is the universal besetting sin of our profession. It is time that we should do our part to remove what Holmes calls the disgrace of medicine due to "a colossal system of self-deception, in obedience to which mines have been emptied of their cankering materials, the vegetable kingdom robbed of all its noxious growths, the entrails of animals taxed for their impurities, the poison-bags of reptiles drained of their venom, and all the inconceivable abominations thus obtained thrust down the throats of human beings suffering from some fault of organisation, nourishment, or vital stimulation."

In several places Holmes hints as to the necessity for a doctor to adhere closely to his profession, and in Valedictory address in 1871, he says: "I warn you against all ambitious aspirations outside of your profession. Medicine is the most difficult of sciences, and the most laborious of arts. It will task all your powers of body and mind if you are faithful to it. Do not dabble in the muddy sewer of politics, nor linger by the enchanted streams of literature, nor dig in far-off fields for the hidden waters of alien sciences. The great practitioners are generally those who concentrate all their powers on their business."

Some of you, perhaps, may more fully agree with Dr. Holmes in reference to this point than I do; but while I do not advocate medical men following the example of the eccentric Parisian, Charles Cros, who touched everything, from politics to potatoes, and from the differential calculus to cauliflowers, I am not disposed to deny the right of medical men to undertake the duties of citizenship. Indeed, I think that they might render yeoman service if they were prepared to undertake municipal duties in large towns; and, even in political life, if they could divest themselves of blind partisanship, they might often help on progressive movements. There is surely a period in medical life when we can dispense with the help of the "bottle," and live a fuller and more vigorous life. And I cannot see why we should be one whit less useful in our medical capacities if we took a lively and rational interest in the movements which excite the attention of the best minds of our times. First and foremost, by all means, let us be worthy members of our calling, but at the same time let us not ignore our duties as worthy citizens and useful residents of the locality where our lines have fallen.

I shall conclude this paper by reading portions of Holmes' poem recited before the National Sanitary Association in 1860:

What makes the Healing Art divine?
The bitter drug we buy and sell,
The brands that scorch, the blades that shine,
The scars we leave, the "cures" we tell?

Are these thy glories, holiest Art,—
The trophies that adorn thee best,—
Or but thy triumph's meanest part,
Where mortal weakness stands confessed?

Though on the field that Death has won,
She saves some stragglers in retreat;
These single acts of mercy done
Are but confessions of defeat.

What though our tempered poisons save
Some wrecks of life from aches and ails:
Those grand specifics Nature gave
Were never poised by weights or scales!

God lent his creatures light and air,
And waters open to the skies;
Man locks him in a stifling lair,
And wonders why his brother dies!

In vain our pitying tears are shed,
In vain we rear the sheltering pile
Where Art weeds out from bed to bed
The plagues we planted by the mile!

Be that the glory of the past;
With these our sacred toils begin;
So flies in tatters from its mast
The yellow flag of sloth and sin,

And lo! the starry folds reveal
The blazoned truth we hold so dear:
To guard is better than to heal,—
The shield is nobler than the spear!

THE BEGINNINGS OF DISEASE.[1]

By H. Campbell Pope, M.D. Lond., F.R.C.S.,
President of the West London Medico-Chirurgical Society.

It seems but as an interval of four or five summers since we first, in our corporate capacity, met in this room under the presidency of Dr. Vinen, by the kind permission of the authorities of the West London Hospital. But reference to our records assures us that seven long years have passed away since that day, and we have consequently gone through the most trying portion of our infancy, and have now to enter upon a period leading up to adolescence, in which it behoves all of us to see that the promise of our early years is progressing steadfastly towards fulfilment. I feel that in entering upon this second period much honour and great responsibility have been laid upon me, while still a junior in our profession, by your kindness in installing me as the occupant of this chair, for which I most sincerely thank you, and I beg leave to still further trespass upon that kindness by asking you to put down all my shortcomings rather to lack of experience and capacity than to want of devotion to the objects and interests of this growing society.

Our last session was full of interest, and marked by steady progress under the fostering hand of our last president, Dr. Travers, whose ripened judgment, genial manner, sincerity of purpose, and methodical conduct of business, have given to his presidency an enduring title to remembrance. Since our last meeting our pleasant recollections of the vacation are marred by the removal by death from our ranks of one of our members (Mr. Samuel Benton), who took great interest in the society, and enriched its proceedings by papers and contributions to debate.

In opening our session I beg to cordially congratulate the society and its founder, Mr. Keetley, on our continued increase in numbers, and to express the hope that the nature of our work and the varied features of our evenings may attract year by year still greater numbers of earnest students of our art, to our mutual edification, and to the extension of our public usefulness.

It is no slight matter for one engaged in general practice to select from amongst the multitude of subjects which engross his attention any one in which he is so well versed as to justify his addressing upon it such an audience as this which contains those who have paid special care to almost all the sub-divisions of professional knowledge.

But the nature of our labours, whilst not allowing us opportunity to study minutely the diseases of special organs, gives us this advantage over the specialist, that we are enabled to have an outlook over disease of a much more extended range, that we can often follow the life-history of our patients from the cradle to the grave, that

[1] An address delivered before the West London Medico-Chirurgical Society, at the opening of the Eighth Session, on Friday, Oct. 4, 1889.

we can see the interdependence of diseases, by reason of a wider and more intimate knowledge of family history, and above all that we are privileged to witness and take note of those early departures from a healthy standard, which constitute the "beginnings of disease." I say privileged, because it is in these early stages of various maladies that it is possible not only to afford present relief from them, but often also to indicate their causes with a view to prevention in the future.

In taking, however, this title to my address, no one is more sensible of the insufficiency of a single paper to do justice to such a theme than myself, or of the still greater inadequacy of an ordinary practitioner to speak upon it. However, this much by the way of apology should be stated, that we of the rank and file are called upon to treat disease in all its protean forms; that by experience to all of us comes some method of dealing with it; that the opportunities of giving public utterance to the faith that lies within us are few; and that when such opportunity does come to one of our number, it is his duty to examine his line of practice and summarise his views that whatever grains of truth they may contain shall not be lost. And, indeed, it is the conviction that much knowledge of inestimable value to mankind is lost by a want of system, and a ready method of collating experiences among general practitioners which has mainly led me to address you this evening on the "Beginnings of Disease." Having this object in view, it is necessary to suggest a method by which such knowledge may be made available for scientific purposes, and the germ of such a method I hope presently to bring before you for consideration. But previously to so doing, it is necessary to state what is to be understood by "beginnings of disease." Dr. Andrew, in his admirable Cavendish Lecture this year, says, "All disease begins mediately or immediately in the environment," and he proceeds to quote from Dr. Harry Campbell's learned work upon the "Causation of Disease,"[2] a still more emphatic statement—namely, "The environment is in the last resort the sole cause of disease," which is followed by a short explanatory statement.

For the purpose, however, which I have in view this evening, it is necessary for me to examine into the causation of disease much more fully, on the lines laid down in Dr. Harry Campbell's masterly work, to which I must express my great indebtedness. This work considers the *general* origin of disease; for our purpose, it will be better to consider disease as affecting any individual. The "Beginning of Disease" then in any individual, may be from the moment when the male and female elements of which he is composed have united to commence the developmental process. This is what is meant by "beginning" as we consider it to-night, let us see what is meant by disease. Disease is a process occurring in a *living* being, or organism, and will so be considered as belonging to *life*. Life in a normal state should be pleasant and easy, that is, not obtrusive on the consciousness; disease or uneasiness shows that something is wrong or abnormal, and may thus be defined as "abnormal life." We must now consider what is life, and then what conditions make it abnormal, or subject to disease.

Life is best studied with a view to definition in its simplest form, the simple cell, which lives so long as certain interactions takes place between it and its surrounding medium or environment. Life is the result of a series of interactions between an organism and its environment, which interactions may be normal and orderly, or abnormal and disorderly. In the first case we have normal life in which the organism and the environment are suited to one another; in the second case we have abnormal life or disease, in which the organism and its environment are at variance, through the fault of the organism in its structure, or through unsuitability of the environment to the structure of the organism, or through faults in both. Now the life which we as medical practitioners have to study, is not so simple as that of the amœba floating in the drop of water, it is a life of infinitely more complicated structure, consisting not of one cell, but of millions, arranged into specialised organs and tissues, carrying out duties and functions subservient to the life of the whole structure; each cell, and each organ or tissue, having its own special environment, and the whole body or structure surrounded by an environment, complex beyond description and differing for every individual.

But this is not all, every cell is composed of a protoplasmic material, consisting of untold numbers of atoms compounded into molecules, of molecules formed into structures of infinite variety, agitated by dynamic movements, and exhibiting chemical changes, of which, at present, our knowledge is rudimentary. How then can we best study these interactions of organism and environment? First by understanding the nature of organism and environment, and then by seeing how these two factors mutually react. Dr. Campbell very conveniently uses symbols—(S) for the structure of an organism; (E) for the environment—thus, S + E = life.

Let us consider the nature of the environment of an individual calling it E.

E is of two kinds { *a*. Internal-cell E. *b*. External-body E.

(*a*) INTERNAL-CELL E which consists of the nutrient plasma which surrounds the cell, and feeds it, and has returned to it the excreta. This plasma then must be kept pure and fit, both by what goes into it, and by the removal of effete matters from it. We must here remember that one set of cells can influence the E of another set, or of the whole body. Thus we have inefficient kidney action, allowing nitrogenous excreta to remain in the plasma, injuring the action of other cells, say of the brain, or even poisoning the whole system. Digestive disorder or alcoholic excess will supply impure plasma. Imperfect respiration, from whatever cause, will give rise to the retention of noxious matters. Exterior violence, great atmospheric changes, microscopic organisms, noxious gases, and many other causes which will readily occur to you, notably, the direct influence of the nervous system on secretion, excretion, and body heat, and indirectly through the operations of the mind, can all powerfully affect the production of this plasma, and consequently the cells of which it is the environment.

(*b*) EXTERNAL BODY, E.—Darwin divides external body E into organic and inorganic. The organic consists of the community of organised beings by whom we are surrounded. The inorganic consists of the telluric and atmospheric influences, sunlight and exercise. Campbell speaks of the physical and mental environment.

Contrast for one moment the physical and mental environments of a literary man and a dock labourer, and think of the effects of their respective environments on their mental and physical conformation. Diversity of environment tends to make perfect adaptation of structure

[2] "The Causation of Disease," by Harry Campbell, M.D., Lond. H. K. Lewis, London, 1889.

to it impossible, except several generations are exposed to a more or less similar environment.

The adaptation of an hereditary line to a special environment is best shown in the Bach family, whose adaptation to their musical surroundings culminated in the production of that great genius, John Sebastian Bach.[3] Veit Bach, a German baker, resident in Hungary, was forced, by religious persecution, to seek a new home in Germany. He settled in a village near Gotha, and played the lute at his mill while his corn was being ground. He had two sons, Hans who became a musician, and a second son who became a carpet maker, leaving three sons, all of whom became musicians. Hans Bach had also three sons—organists—the youngest of whom, Heinrich, was highly esteemed as a composer. Heinrich had four sons—musicians—one of whom was the greatest organist of his time. The brother of Hans Bach, Christoph, had three sons, of whom two, John Ambrosius and John Christoph, were twins. The twins were exactly alike, so that their wives had difficulty in distinguishing them, and they resembled each other as much in speech, tastes, and disposition, and in their style of music, as they did in outward appearance.

When one fell ill so did the other, and their deaths followed each other closely. One of these twins, John Ambrosius was the father of John Sebastian Bach. At the time when Bach's fame was highest, nearly thirty of his family held posts as organists in Germany, and they met once a year to exercise their talents together. Sir Julius Benedict says "it would be very difficult, if not quite impossible' nowadays to find a man of the stamp of J. S. Bach free to follow the bent of his genius untrammelled by the continuous troubles and miseries of life."

Here we have a history of four generations exposed to one environment—viz., church music, leading up to the production of the greatest genius of his kind, which is as much as to say perfect adaptation to environment. You will pardon this somewhat long example, as it will also serve when speaking of structure. "Given healthy structure evil can only come through environment."

But it is time to speak of structure: how does it come about? Through the operation of heredity and environment. In sexual heredity the offspring tends to be produced as a *certain mean of structure* of the parental structures, the males tending to one type the females to another. Now were heredity untrammelled, the result would be that in a family all the boys would resemble one another, as would also the girls.

But the action of environment comes into play; the action of it on the germ and sperm cells is different for each successive child before they come into union at all, and after they have united and the organism is started on its career there is the action of environment to be considered both before birth and after. Now this environment cannot be the same in any two cases, and hence arise "natural variations."

What is truly hereditary in the structure of any individual is the result of the combination of the germ and sperm cells at the time of their union. After the union has taken place and development commenced, environment helps in influencing the structure. There will be, then, two different periods to consider—before, and after birth. Before birth, that is during intra-uterine life, the growing child may be influenced by the mother's blood and by pressure. The mother's blood may be altered in quantity or quality. You will have noticed as a rule that a large placenta accompanies a well-developed child, and *vice versâ*. The quantity of blood, then, seems to be important. But how much more so is the quality! how many diseases commence in intra-uterine life from altered quality! To take two into notice will enforce this point—syphilis and rheumatism. Again, external pressure may influence the child in utero, twistings of the cord and pressure at birth. It is difficult to see how the so-called "mother's marks" can be produced through the mother's blood; arrests of development can be imagined to occur from external injury, but in all these cases it is far more likely that the initial fault is in the germ or sperm cell, or both, and that the frights and alarms which are generally forthcoming to account for such events are coincidental and not causal.

Nevertheless, it is not possible to deny absolutely that there is any force capable of acting to produce these results through the medium of the mother's nervous system, and all cases of so-called mother's marks and malformations are worthy of careful study.

And here, before entering upon the action of environment in modifying structure after birth, a most important principle must be attended to—namely, that "*environment is potent in modifying structure in proportion as it acts early in the life of the individual.*" How important then to the infant that its environment should be healthy, that it should be supplied with its natural food, the mother's milk, that its respiration should be carried on in pure air, and unimpeded by unyielding swathes; that the minor rythms of life, sleep, exercise, and the action of the bowels, should be set going as it were, to keep their regular times.

But I am not about to speak of the management of children, as that involves points of daily practice known to all of such audiences as this, and I am *now* more concerned with principles; on one matter only would I, in common with Dr. Campbell, lay great stress, that is, the constant examination of the excreta of the bowels, for intestinal catarrh is the beginning of a legion of diseases. And as growth proceeds, the question of education comes in, for the mental structure is largely determined by this; if wisely directed, in other words, if the mental E is adapted to the mental S, we shall get healthy growth, if not, we may easily get unhealthy interaction, and the "beginning of disease." How great is the responsibility of our State-educationists in putting all kinds of structures through one mental mill; is it not a certainty that disease must begin in a greater or less number of growing organisms so treated? And the training of moral sense and the will is most important, for as the individual approaches adult age he may have to choose his own environment, whether he takes up his abode in a crowded city or the open country; whether he contracts habits which will evolve his constitution and his character, or involve them in the dissolution of disease; whether he transmits to posterity, in accordance as his choice is made, an inheritance of weal or woe; whether he, as forming part of the environment of his neighbours, is clearing the moral atmosphere, or imparting to it a poisonous miasma; whether, in short, he is helping in the evolution of his race, or falling under the iron rod of natural selection.

But more must be said of the part which heredity itself takes in forming structure, and time will not allow much to be said upon this tempting theme. It will be remembered that heredity was spoken of just now, as producing in the offspring a *certain structural mean*, that is to say not always an exact structural mean. There will be "pre-potency"

[3] "The life of John Sebastian Bach," Houlston and Sons, Paternoster-quare, 1876.

of some characteristics of the male or female parents; thus there will be an infinite number of blendings, which fall into three groups:—

1.—Physiological blendings.

2.—The blending of the normal with the abnormal.

3.—The blending of the abnormal with the abnormal.

This subject is fully discussed in Dr. Campbell's work, and is deserving of minute study.

In these blendings a great variety of diseases take their rise; but on the other hand, in the case of the union of the normal with the abnormal, the abnormality may be neutralized, and the offspring brought forth free from a disease possessed by one of its parents, being in fact a *reversion* to an ancestral type free from this disease. This, however, could only occur where the disease or peculiarity had been of comparatively recent age, for those characters as a rule are neutralized which are of recent growth; the greater the age of a structural peculiarity the greater its stability.

In like manner the latest acquirements of the parents are the least likely to be transmitted. The progress of disease shows a somewhat similar law, the latest acquired parts are the first to suffer—that is, have the least stability; for instance, the nervous system, the most highly-evolved structure, is the first to respond abnormally to a mal-environment; and again, the most recently-organized part of the nervous system is, in insanity, the first to show signs of dissolution, wherefore as a beginning of insanity look for some perversion of the moral sense. The law of heredity, then, prepares us to expect like characters to appear in the same sex in the offspring, and generally in the same period of life. But a character hereditarily transmitted may not show itself as an *actuality* in the offspring of opposite sex, but is nevertheless *potentially* present, and may be transmitted through that sex, to appear as an *actuality* again in the original sex.

The phenomena of hæmophilia are evidences of this; and we may, therefore, in studying the family history of a male patient find traces of his disease in his maternal grandfather's constitution, and this involves questions of some moment in estimating disease chances in the examination for life insurance, where the "beginnings of disease" are not infrequently brought prominently under our notice. It is impossible in such a paper as this to notice in any adequate manner the phenomena and bearings of this great question, but the main facts of heredity are known to most of us, and therefore I will only further enlarge upon this subject when considering the morbid interactions of structure and environment. To sum up, it is to be remembered that heredity under a similar environment tends to produce individuals whose structure is a certain mean of the structures of their parents, and resembling that of one another, save for differences of sex. The Bach twins John Ambrosius and John Christoph were formed under as similar an environment as could be well imagined, and the result has been given above—namely, that they resembled each other not only in outward appearance, but to the utmost reach of their development, as shown in the same musical expression of the immaterial conceptions of their minds. Nature could hardly have given to the world a more perfect example of the workings of heredity and environment in the causation of structure. Structure is then due to heredity mainly, but subject to the modifications of environment both before and after birth.

And now having grasped the nature of S and E, we are in the position to examine their morbid interactions in the production of disease. Let us revert to the formula S+E=healthy life, which presupposes that S and E are normal. Unfortunately we have no criterion of the normality of S and E except the result of their interaction. If this result be painless, happy life, till the organism has finished its rhythm, and ceases its interactions because its course is run, then S and E have been normal to one another.

Let S represent a literary man of slight muscular development, and let E represent his accustomed sedentary work and mental surroundings. We will suppose him to have inherited an average structure, and that his immediate surroundings are free from glaring sanitary defects. We shall here get a fairly normal interaction, and a fairly healthy life. But place this S (the literary man) in a fresh E, let him take his place in the blacksmith's smithy for a week, if he has not by the end of that time strained his cardiac valves, or ruptured himself, he has in all probability, from the exposure to great variations of temperature, contracted some catarrh or inflammation. Here S + E = abnormal life or disease. It is then best to speak of this as abnormal—E, so far as that particular S is concerned, we thus get S + abnormal E=disease. Similarly by reversing our example, and putting the blacksmith in the student's library, we might in the same time find him suffering from hæmorrhoids, or exhibiting signs of inhibitory paresis, such as restlessness and the use of unparliamentary language, even if mental alienation had not already occurred. But on the other hand these structures are also abnormal to their changed environment—that is to say, S and E are *both* abnormal one to the other.

Dr. Campbell sums up these points thus: "*If the S is so constituted that healthy vital interaction is impossible under any conditions of E, that S is absolutely and inevitably abnormal; and, conversely, if an E is such that no S can respond healthily to it, that E is absolutely and inevitably abnormal.*

But if a set of conditions exists in which the S can act healthily, that S must be regarded as possessing, at all events, a potential normality; and, conversely, if there is a set of conditions to which some invidiuals are capable of responding healthily that E is normal to them."

We cannot do better than give attention to these several statements. Is any S so constituted that healthy vital interaction is impossible under any condition of E? Is there any S absolutely and inevitably abnormal?

In speaking of the cause of structure it will be remembered that heredity was the most potent factor, and afterwards environment, in direct proportion as it acted early in life of the individual. Hence we may expect to find the frailest structures owing their defects to hereditary causes, or the action of environment in intra-uterine or very early *post-partum* life. Examples of structures so constituted from pure heredity, that healthy vital interaction is impossible, are rare, but are to be found. Those born of parents with advanced phthisis, and children of the third and fourth generations of dwellers in the central parts of large cities, or those suffering from malformations in vital organs. More common are those whose defects have arisen before birth from a mal-environment, say from the syphilitic poison, some of whom cannot survive even up till birth; or again, say, those whose hearts are crippled by intra-uterine rheumatism; or those in whom the brain has been so injured during labour that long survival is impossible.

And again many structures are so ruined during infancy, by malnutrition consequent on improper feeding, followed by prolonged diarrhœa, rickets, and resulting nervous diseases, that they are unfitted to exist even in the most favourable environment.

Then we come to consider the inevitably abnormal environment. Some E's are *necessarily fatal*, such as certain poisons and traumatic injuries, starvation, and deprivation of oxygen. Apart from these, however, are various environments in which no structure can live healthily, and which, by their influence on structure, will become *necessarily fatal* in the third or fourth generation of those exposed to them. Such are excessive use of alcohol, residence in the crowded areas of large towns, and exposure to insanitary influences in other ways. Certain occupations are necessarily abnormal, and confinement to close rooms and lack of exercise, will soon affect the strongest S.

But it is not to be considered that because a structure responds abnormally to a certain E, that it is *impossible* to find an E to which such a structure can respond healthily, and on the other hand an environment which is abnormal to the many may prove normal to a few. "What is one man's food is another man's poison."

To suit such structures with environments normal to them becomes then a practical task for the physician, and the practical value of the views we have been considering, consists in our being able to apply them to our daily work.

Now the symbol S standing for structure, expresses very well the value of S as derived from heredity only, it cannot express those after-effects of environment on structure, which occur during *ante* and *post-partum* life, and it is evident that much of the structural proneness to disease is contracted in these periods, and ought to be valued, in considering the interactions of S and E in producing disease. This factor may be expressed by s, and then Ss would represent the structure of an individual as compounded by heredity and environment. $Ss + E =$ disease.

Now, if we wish to make use of this formula in estimating the part which each factor takes in determining disease, we must attach numerical values to them.

Omitting s for the present, that is, the relative proportion of one of the factors of structure to the other, in the consideration of the interaction of S and E, we find, following Dr. Campbell, that it is convenient to suppose a given disease to be made up of eleven units, and we get a series as follows:

a. $S_{10}+E=11$	*e.* $S_6+E_5=11$	*i.* $S_2+E_9=11$
b. $S_9+E_2=11$	*f.* $S_5+E_6=11$	*j.* $S_1+E_{10}=11$
c. $S_8+E_3=11$	*g.* $S_4+E_7=11$	*k.* S_0+E_{10}
d. $S_7+E_4=11$	*h.* $S_3+E_8=11$	

(pp. 164-165, "Causation of Disease.")

a. An individual in whom the disease bursts out spontaneously.

k. An individual in whom the largest quantity of specific pathogenesis is unable to produce the disease.

These are the two extremes of the scale. Dr. Campbell gives the following illustration of his method: "Let us apply this numerical method to illustrate the share in causation taken by S and E respectively in a particular disease—*e.g.*, insanity. "It must be borne in mind," says Maudsley, speaking of the causation of insanity, "that hereditary predisposition may be of every degree of intensity, so as on the one hand to conspire with certain more or less powerful causes, or, on the other hand, to suffice of itself to give rise to insanity, even amidst the most favourable circumstances." Let us endeavour to give numerical expression to these words of Maudsley. The formula $S_{10}+E$ signifies that, under the most favourable E, the individual will become insane; S_9+E, that, with the greatest conceivable care, the disorder may be averted. . . . It would, of course, be possible for the disease to be called forth by a more powerful exciting cause—*e.g.*, E_5; but in such a case the excess of E (three) is in a manner inoperative. For speaking, as we are, of the pathogenesis of insanity, without any regard to the *intensity* of the morbid action, we cannot get more than 11, since this number represents the full disease.

No doubt a greater quantity of specific mal-E—*e.g.*, prolonged mal-hygiene—might induce a more intense attack of the disease, but I am not attempting to represent numerically the *intensity* of the disease; I am dealing only with the actual presence or absence thereof, the number 11, or any higher number, denoting the presence of insanity, the numbers below this its absence. It would, perhaps, be possible, however, to somewhat roughly denote in this numerical way the intensity—the *dose*, if we may so put it—of the malady."

Now, in estimating the part played by structure in these interactions of disease, it is better, if possible, to apportion to small s its value; thus, if a structural proclivity be estimated at six, and we consider that four parts are due to heredity, and two to environment, acting on the structure in the past, we may express the equation thus—$S_4s_2+E_5=$ the causation of the given disease.

There are many subjects in connection with these interactions which I would willingly have alluded to, but the limits of time forbid, and the influences also with regard to disease, of natural selection, sexual selection, and the direct action of environment, must be left untouched.

But I fancy some one of my hearers who has been brought up in the modern school of thought is saying, "all this have I known from my youth up," and the man of practice cogitates how that it will all end in pulv. jalapæ co., tinct. ferri, and cod liver oil, and both perhaps are thinking "cui bono" are all these theories. Unfortunately, the cogitations of our practical friend prove often only too true, and we often have to prescribe these remedies, where our reason tells us that what is wanted is wholesome food, maternal care, and ocean breezes.

However, there is truth in these theories, and such truth as there is will prevail; meantime, let us consider how they can be turned to practical account by this society. In a changing population like this what an immense advantage it would be to us practitioners, and to our patients what an inestimable boon, if, when they came to see us for the first time, they brought a card duly filled in by some qualified practitioner, containing particulars of their family history as far as could be obtained, of their own life history, including what diseases they had suffered from, and what influences they had been subjected to, and of any idiosyncrasies with regard to drug action or proclivity to fevers. Such details would put us at once *en rapport* with our patient, and much blind groping and feeling of the way would be avoided. I should like for this society to lead the way in this matter, and for it to appoint a small committee to draw up a card, so arranged that it would show at a glance the structure and the previous environment of a patient. The card should be in the patient's possession, a corresponding card or counterfoil being kept by his medical attendant. These counterfoils would soon, if used by a large number of practitioners, represent an amount of experience which is now almost lost, in that it dies with its possessor. It might in time be worth the while of Government, when it has a Ministry of Public

Health, to devote an office to the collation and classification of these facts, and the issue of such cards to the Army and Navy Medical Departments could not fail to bring much valuable information to light. I hope the society will seriously consider this question of appointing a committee to prepare such a scheme; it would, by thoroughly carrying it out, be the first to till in the interest of science the fallow and yet fertile field of *general* practice.

And now, as "example is better than precept," let us proceed to examine a case on this basis of structure and environment. We have a young man to advise who is suffering from incipient phthisis; his father died of this disease, but there is no other history of it in his family. He is living in London, and his habits are more of the town than the country, but he is well off, and we have *carte blanche* to advise him as we deem best. He has not altogether led a steady life, and he is decidedly getting worse.

Let us consider S first. His father died of phthisis; at what age? At forty. He first showed signs of the disease at thirty-five. Our patient is twenty-five, he is already showing signs; here then is considerably hereditary tendency, let us say S_4; but he has not been steady, and he has lived much in town, and he begins his disease ten years before his father; his environment has affected his structure to the extent of quite two units. His structure then may be represented by $S_4 s_2$, and his equation will be $S_4 s_2 + E_5 = 11$. This is serious, and matters are growing worse, he must be sent to Davos; that is the thing to do, say all his friends.

This is a radical measure indeed; truly a change of environment; what we are concerned in, is, will it suit him? Here is a Londoner living, not so much above the sea level, in a damp-laden atmosphere and dusty, but he loves his London life, and he cares not for reading, or the dulness of the country. But at Davos he will have tobogganing, and skating, and private theatricals, and books, and the glorious scenery, and the mountain air, say the friends. So he will, but before all he will have to obey the doctor's orders, and we are doubtful if the restraint and the change of life will not do him more harm than good, by making him hypochondriacal, for the doctor will not let him *run risks* to amuse himself, and for scenery and books he cares not one jot. And what is his physical condition? and what cases are unfit for high altitudes?

The chief contra-indications are, undoubtedly, an excitable nervous temperament which, under the stimulating influence of high altitudes, gives rise to intense irritability and sleeplessness. Extensive emphysema, pneumothorax, and hydropneumothorax. Valvular lesions, present hæmoptysis, high temperature or breaking down of the lung. Well, our patient is sent there as he presents none of these symptoms in a marked degree, and we have the more confidence in sending him to Davos as one of our own members, Dr. W. R. Huggard, is there, practising, and most worthily sustaining the reputation of British medicine. This is the line of thought which should be followed in working out a case in the manner suggested.

As regards Davos, an excellent paper was written by Dr. Clifford Albutt, in the *Lancet*, vol. ii., 1888, p. 704; and Dr. Huggard's valuable opinions will be found in the *London Medical Record* for June, 1886. When in Davos this summer, Dr. Huggard told me he considered no small part of the benefit of highly rarefied air was due to its causing increased depth of respiration, calling into play portions of the lungs often unused, this he called "lung gymnastics." The journey to Davos is now greatly shortened in time, by the extension of the railway from Landquart to Klosters, and the valley is magnificently illuminated at night by the electric light. And here let me clearly indicate what is aimed at by a residence in Davos—it is nothing less than a permanent change of structure by the action of environment; this takes time, and let no one with a light heart send a patient for this cure, who cannot stay until he is cured.

The breaking up of a home in England, if it is the breadwinner who is affected, and the casting of the whole fortune on the hazard of a single die, is not to be taken without grave reflection; for if the sufferer has to return before his structure is consolidated, he will come home with diminished fortune, to begin life again, and with the almost certainty of a relapse through added worry, and the action of the old environments.

But our patient, we will suppose, has been "cured," and may leave the high altitude, and now comes a question nearly as important as was raised before—is it safe to send him straight home? I do not think so: to go direct with a newly organised structure of a lower resisting power, from highly rarefied, pure, cold, air, to the warmer, muggy, smoky atmosphere of London, is a crucial experiment which it is unwise to make. It is better to halt at a lower elevation, say from 2,000 to 2,500 feet above sea level, and gradually accustom the lungs to the increasing pressure. Patients on leaving Davos not unfrequently suffer from catarrh on reaching the low level, and the danger of this needs no pointing out. Now as an example of such a halting place, I would mention Heiden, in the canton of Appenzel, East Switzerland. This village is not difficult of access, from the Engadine *viâ* Chur to Rorschach on Lake Constanz, and thence to Heiden by the picturesque Rorschach-Heiden mountain railway. This charming place, situated among the sub-alpine meadows at the foot of the Sentis, 2,645 feet above the level of the sea, surrounded by pine woods, and overlooking Lake Constanz, commands a magnificent panorama across the lake ranging from the Vorarlberg Alps in Austria on the south-east; to Baden on the north-west. Here you meet few English travellers; but the German doctors send many patients to brace them after the courses at Carlsbad, Marienbad, and Kissingen. Through the kindness of one of the local practitioners, Dr. Altherr, I am enabled to furnish the members of the society with some particulars which will enable them to judge of the climate of Heiden, which was highly recommended by Niemeyer and Von Graefe.

Heiden has a sub-Alpine climate, with a moderately cool temperature (sommerfrische). The air is aromatic, very pure, rich in ozone, and almost absolutely free from dust. The mean barometric pressure in summer is 693.5 mm. = (27.25 inches). The average temperature is, in May, 45.5 Fahr.; June, 57.5; July, 63.8; August, 58.4; September, 53. The relative moisture is, in May, 90; June, 67; July, 66; August, 66; September, 76. This shows a very dry air; owing to the open position of the village, a permanent current of air exists without causing harmful draught. Great daily changes of temperature are seldom felt in Heiden, nor does the intense valley wind felt in the upper Alps exist there. Therefore, the air is in a high degree bracing, and neither tiring nor exciting. The remedies used in Heiden are milk drinking, goat's whey drinking, and bathing, and hydrotherapy.

The whey-cure is a celebrated old remedy, at one time

nearly lost sight of, and then revived. It is prepared from goat's milk, and is a very easily digestible nourishment; a little casein and albumen are contained in it, and much sugar of milk—53 parts in 1000; also blood salts, especially those of potash and soda. The whey helps tissue change; the urine is increased in gravity and quantity. The action on the intestinal canal varies with individuals. The secretions of the mucous membranes, especially of the lungs, stomach, and kidneys, are increased. Through this quickening of the tissue changes, the constituents of the blood are renewed more rapidly, therefore the blood is improved.

The indications are:—Chronic catarrh of the larynx and bronchial tubes, gastric conditions accompanied by habitual constipation, congestion of the portal venous system, catarrhal affections of the bladder, hæmorrhoids, chronic Bright's disease, and anæmia of young people. The contra-indications are:—Hæmophilia, diarrhœa, advanced phthisis, atony of the stomach, and universal degeneration of the nervous system.

Since 1886, Heiden has had a high pressure water supply. The water is very pure and fresh, temperature 37.5 Fahr., therefore it has been possible to set up a small but elegant hydropathic establishment, fitted with the newest douches and bathing appliances.

It will be seen from Dr. Altherr's report that Heiden is good for many "disease beginnings." For my own part, I believe that few places are so suitable for the neurasthenic patient as this: the calming effects on the irritable nerves are great; no fatigue is felt; a fresh walk, without tiring effect, might be taken daily for months; the sanitary arrangements are good, and the British Philistine is unknown. Much of the good effect of the whey-cure I believe to be due to the early rising, enforced exercise, and regular habits which its use entails.

It was my original intention to contrast the expected effects on our supposed patient who was sent to Davos, with the efforts which might be anticipated by sojourn, say at Hyères, with a sea-side atmosphere of high pressure. Dr. Sawtell, of Costebelle, near Hyères, very kindly supplied me with materials for so doing, but time will not permit, and if my hearers are interested in this subject and method of investigation, they will find their data in a paper written by Dr. Sawtell for the *Illustrated Medical News*, and published in that journal on September 9th, 1889.

We will now suppose our patient having completed his cure has left Heiden (where catarrh is almost unknown) and come home. Here, perforce, we must leave the consideration of him. But I must still crave your attention a little longer (and I fear I have trespassed on your patience too long), for we have only been considering the case of one of the elect among sufferers, one so blessed with this world's goods that he could change his surroundings as he was advised. In fact, we have been considering *individual* environment; but what about the *social* environment! what about the thousands who are left in *London alone*, deprived of the conditions by which they can retain their health. True it is that the law of evolution will weed them out, and also true that if we patch them up, we are interfering with one of Nature's laws, and delaying her operations for the perfecting of her work.

But patch we must, and in so doing we learn more and more of Nature's laws, and by collecting our knowledge and analysing it we may help to hasten on the time when even civilization can be furthered in accordance with those laws, instead of being, as it is now, advanced in direct opposition to them. For what are we doing? poisoning the atmosphere, which should give us bracing life; poisoning the rivers, which should be pure to slake our thirst; poisoning our bodies with adulterated food; poisoning our blood with syphilis and drink; starving our minds by veiling Nature's face and hiding from her presence, and as we reap a copious harvest of "disease beginnings," forsooth, we marvel at the cruelty of Nature, and of Nature's God.

A possibility, however, has arisen, now that we are under a new municipal government, that some of these evils will be abated; more air and light may be let in to our great towns by carrying large boulevards through our crowded places; the amines process of sewage treatment gives a chance of purifying our larger rivers; while the Smoke Abatement Act, the Food Adulteration Act, the Contagious Diseases Acts (uniformly administered), the encouragement of temperance, and of the knowledge of Nature's work, are all means to effect such changes in our cities, that health and happiness may confidently be looked for, where at present disease and misery hold sway. For if environments be not *necessarily fatal* an ultimate adjustment of S and E may be obtained.

Of one only of these agencies will I speak, as it promises the mitigation of one of our most troublesome environments—the presence of zymotic germs. Zymotic germs form very dangerous environments, on account of their variable nature; by this I do not mean their varied nature. Germs are living organisms, and therefore vary according to their own environments; thus epidemics vary largely in severity in different localities, and in the same locality at different times. It is indeed probable that we are more susceptible to germs of disease arising out of our own neighbourhoods. It a well-known fact that the negro who lives with impunity in his ague swamp is highly susceptible to various fever germs in this country; while, on the other hand, the medical man who might visit unscathed in London fever dens, would be at once laid low on the West Coast of Africa. Zymotic diseases play most havoc when different tribes or nations come into contact for the first time.

A more homely instance will perhaps also give point to this; my own children, who are constantly somewhat exposed to disease germs, have had no zymotic illnesses at home, but have suffered from three different varieties contracted during their annual visit to the sea. The immunity of doctor's families has often been commented on; I think the explanation will be found in the adaptation of S to E. Their structure and environments become normal to one another.

In large cities the sewage always contains more or less disease germs, potential epidemics, and to find means to make sewage innocuous has been one of the aims of sanitarians for many years. This however has apparently been accomplished by the invention of Mr. Wollheim in the "Amines Process" of sewage treatment. A full account of this process will be found in the periodical *Iron*, of Sept. 20th, 1889. The process consists of treating sewage with a mixture of herring brine and lime; herring brine contains trimethylamine and propylamine, and by the action of lime on these a gaseous body is given off, to which the inventor gives the fanciful name of "aminol," This is fatal to germs of all kinds. Neither lime nor herring brine alone will produce this effect. Dr. Klein, who has several times

examined the effluent, both from experimental trials at West Ham and Wimbledon, can cultivate no germs from it, and he says, whereas London drinking water contains 1,525 organisms per cubic centimetre, the effluent contains none. Not only so, but the sludge undergoes no decomposition, though exposed for weeks to sun and showers. Our County Council will do well to give this process a thorough trial at Crossness, for by its action we may have restored to us our Silver Thames, and be greatly helped in stamping out zymotic disease. This question of disease being so largely caused by environment requires ventilation, and will doubtless in time permeate the intelligence of the community, and in this permeation we may largely help, for as we have seen, one collection of cells can influence the environment of other collections of cells, or even of the whole body, so we, as centres in the social organism, can duly play our part.

The action of S and E was perceived years ago by that great student of nature, Victor Hugo, who wrote: "We die undermined as well as stricken down. Let us not weary of repeating it, to think first of all of the outcast and sorrowful multitude, to solace them, to give them air, to enlighten them, to love them, to enlarge their horizon magnificently, to lavish upon them education in all its forms, to offer them the example of labour, never the example of idleness, to diminish the weight of the individual burden by intensifying the idea of the universal object, to limit poverty without hurting wealth, to create vast fields of public and popular activity, to have, like Briareus, a hundred hands to stretch out on all sides to the exhausted and the feeble, to employ the collective power in the great duty of opening workshops for all arms, schools for all aptitudes, and laboratories for all intelligences, to increase wages, to diminish suffering, to proportion enjoyment to effort and gratification to need; in one word, to evolve from the social structure, for the benefit of those who suffer and those who are ignorant, more light and comfort. This is, let sympathetic souls forget it not, the first of fraternal obligations; this is, let selfish hearts know it, the first of political necessities!"

In thanking you for the patience with which you have listen to so long an address, I commend to your consideration the project of the cards for use by practitioners of which I spoke before. By bringing a large number of skilled labourers to the tilling of this field, who knows what good things may be in store for us and our descendants, for remember, "Nature *laughed* when tickled by the hoe."

THE HISTORY OF PROTECTIVE INOCULATION.[1]

By Robert Maguire, M.D. Lond., F.R.C.P.,

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It has been the custom for one of my colleagues on an occasion like this to address you upon general medical topics. Last year my friend Dr. Waller departed from this custom, and gave you an account of his own brilliant researches upon the "Electromotive Properties of the Human Heart," which have obtained for him the Monthyon prize of the Académie des Sciences of Paris. I would to-day follow Dr. Waller's example in speaking to you upon a subject in my own department; but unlike him, I must offer you only the work of others. The subject of protective inoculation has been occupying the public attention greatly during the last two or three years. I propose to give you this afternoon an account, more or less historical in its arrangement, of the steps by which this discovery has been made, and to show you—as clearly as I can, and I hope, intelligibly to our non-medical friends who are present—the reasonings which have occupied the minds of the observers during their work.

The *rationale* of protective inoculation has been worked out only during the last ten years. Long before this, of course, the fact had been known that it was possible to inoculate persons with the virus of small-pox, so that they might suffer slightly from the disease, and yet be protected from its further action. Such inoculation had been practised in Constantinople as early as the year 1700. Dr. Timoni, a Greek physician living there, wrote of the custom in 1713 to an English colleague, who published his letter in the *Philosophical Transactions*. Inoculation was practically introduced into this country, as you are probably aware, by Lady Mary Wortley Montagu, whose daughter was in 1721 the first person inoculated for small-pox in England. The inoculation was undoubtedly successful in removing the liability to small-pox. It was comparatively free from danger to the person inoculated; but the modified disease was just as powerful as the original disease in spreading small-pox by contagion. Therefore, the practice is now forbidden in England by law. The Gloucestershire farmers had a vague idea that to be infected by the cow-pox relieved man from liability to the small-pox. In 1768 Jenner began to investigate this, and some years later made known that not only was the farmers' notion correct, but that the cow-pox could be indefinitely propagated by inoculation from man to man, and still remain a protection from the more formidable disease. Numerous questions have naturally cropped up in reference to the manner by which the immunity was obtained. It was at one time considered proved that the cow-pox was really the small-pox of man, modified by passage through the cow. Jenner himself, however, thought it was really the grease-pox of the horse. These and other points are still unsettled, and are even now being investigated by a Royal Commission. But in the facts, so far empirically known, we see foreshadowed two important principles, which have attained great prominence in the light of the researches of recent years. These are (1) that by inoculating an animal with a small quantity of virus taken from a mild case at a specific stage of the disease, we may do the animal no immediate harm, and yet protect it from a more virulent poison; and (2) that the same results may be obtained by passing the poison by inoculation from one animal to another of a different species.

Such was the empiric age of protective inoculation. The more scientific investigation of the subject began with a certain disease of fowls, which, I think, is familiar to all who have kept poultry. The disease is now of historic interest, since it was in regard to it that Pasteur first worked out the theory of protective inoculation, which has led him to further and even more brilliant observations. The bird affected by the disease becomes disinclined to move; it mopes by itself in a corner, the feathers become ruffled, the wings droop, the whole body appears to become contracted, so as to look like a fluffy ball; the eyes are closed, or only half open; the bird, when roused, staggers a few feet, with a gait which clearly indicates the great weakness of its muscles, but it soon settles down again into its apathy; at the same time it

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refuses food, and suffers from diarrhœa; very shortly it dies. The disease, which is known as chicken cholera, is prone to attack all the fowls of the yard. Moreover, it is liable to occur in epidemics, and in those districts where poultry keeping is carried on extensively, it causes great loss to the farmers. It had been suspected by M. Moritz, a veterinary surgeon of Alsace, that the affection might be the result of the action of microbes. The germ had actually been discovered by Peroncito, a veterinary surgeon of Turin, and by M. Toussaint, of Toulouse.

But to demonstrate that a disease is caused by a micro-organism, much more is necessary than to merely find a microbe in the tissues of an animal suffering from the disease. The germ must be shown to be constantly present in connection with the disease. Possibly the germ may not always have the same form; many of the microbes known to us occur in two forms, either as the full-grown parasite or as its spore or egg, of which more presently. But one or other form must always be found. It is desirable, too, that only one germ should be found constantly associated with the disease. At the present time we are in a state of uncertainty from this cause in regard to at least two diseases, acute inflammation of the lungs and malarial fever, in both of which several organisms have been found; and we are forced to doubt which is the working cause, or indeed if any one can be so considered. Next, the germ must be isolated from its surroundings. For this purpose it must be grown on what are known as nutrient media, of which there are very many. But all germs will not grow on the same media. Some are intensely fastidious in their tastes. There are, for instance, some known to us which will grow only in solidified human blood-serum, others on that of sheep, and for each germ a suitable medium must be found. It is probable that many germs remain as yet undiscovered, because the proper cultivating substance has not yet been hit upon. Once caught and fastened up—a veritable *Diable Boiteux*—we can do what we like with the minute being. Still, however, we are uncertain of its actual power to do evil. We are surrounded by germs, some of which can be recognised by their forms, others—small as they are—by their chemical reactions; but there are undoubtedly many kinds which are identical in their physical characters. We have, however, a crucial test at our disposal to demonstrate the power or impotence of a given germ to cause disease. In the cultivations upon nutrient media, the germ is in a pure state, and when again introduced into the tissues of an animal ought to reproduce the disease with which it was found associated. This is the crucial test, and without it nothing is certain. The necessary operation is almost, and may be made absolutely, painless to the animal experimented upon. With regard to many diseases this test has now been applied successfully. But it is in relation to this crucial test that many difficulties are experienced. Some kinds of animals are absolutely incapable of being inoculated with the diseases of other kinds. Especially it is noted that the lower animals are never subject to many of the diseases of man. Obviously then, in the case of certain human diseases, the crucial test cannot be applied, and their connection with germs remains a matter of inference, and therefore uncertainty. The reason of an experimenter occasionally runs wild, and he tries his inoculating substances on himself. In the case of some skin diseases, for instance, this may be done without fear of serious consequences; but as a rule it must be considered neither wise nor pleasant to experiment upon one's self.

Pasteur attacked the subject of chicken-cholera with this knowledge of the methods requisite for scientific proof, and found at last, and after some failures, a suitable cultivating medium for this germ. It grew best in a decoction of chicken-flesh. By inoculating portions of such chicken-broth with the blood of a diseased bird, cultivations of the germ were obtained, from which other portions of broth could again be infected. In this way the germ could be sown and bred indefinitely, and collected at last in a state of perfect purity. Then, applying the crucial test, Pasteur injected a small portion of this infected broth into the muscles of a healthy fowl, and by so doing reproduced the original disease in a virulent form, and caused the death of the bird experimented upon. But how to turn this discovery to a useful end was the next question which presented itself to Pasteur. It was clear that the microbe was the cause of the disease; it was proved that it was present in the sweepings of the poultry yard, and spread thus from infected to non-infected fowls. An outbreak might be checked by isolating the fowls, so as to allow all infected birds to die off without coming in contact with healthy ones, and at the same time disinfecting the poultry yard with sulphuric or carbolic acids. Yet all this did not ensure that further outbreaks might not take place, and cause great loss before they could be checked. No means were suggested by which the action of the germs, when once introduced into the body, could be prevented from killing the victim.

These are problems which present themselves in regard to all germ diseases. When once a colony of germs has gained access to the blood, we are powerless to directly control their evil action. The body itself resists their invasion. We have reason to believe that a battle goes on between the blood corpuscles and the germs. As Pasteur has previously shown, there are two kinds of germs—the one requiring free oxygen for their development, which he called aërobies, the other able to live without free oxygen, these called anaërobies. The red corpuscles, which hold the oxygen of the blood, are besieged by the aërobic germs, and defend their store of oxygen against the marauders' attack. If the corpuscles can retain their oxygen, so much the worse for the germs; they must, fighting, die. If the germs are successful, so much the worse, not only for the corpuscles alone, but for the whole body, to which oxygen is as necessary as to the germs. The red corpuscles are mere passive agents in the struggle, but the white corpuscles are active. For the time being they are a defensive army, and resist the invaders with the simple weapon of digestion. They swallow them; but even then the struggle goes on, and while the germ may thus be slain, the valiant defender may have caught a Tartar, who gnaws his vitals and wins the fight. The anaërobic germs also require oxygen, but get it by splitting up the chemical substances of the body which contain it. The tissue cells may resist this by sheer vital powers. Thus, either by actual fighting, or by stubborn tenacity of their possessions, the cells may conquer the germs. Again, the germs, before they have killed the infected animal, may have used up one or other of the substances necessary for their growth and then die of starvation. Further, the germs may actually commit suicide. They are known to produce during their growth certain chemical substances which are fatal to them when they accumulate. In all these ways the body may get the better of the germs, but medicines are in most cases powerless to kill them. We endeavour to keep up the vitality of the cells, but generally the disease runs its course. Disease germs are almost

always surrounding us, and we cannot entirely avoid them. We cannot render all of them incapable of attacking the body, but can we render the body incapable of being attacked by them? To a certain extent we can do this by keeping the bodily functions in a state of general healthy activity, for the greater the vitality the greater the chance of resisting the germs. Yet this does not alone suffice. We find, however, that many of these germ diseases occur but once, or that at least an attack secures immunity from other attacks for a considerable time. It would appear that when the body has withstood the attack of the germs in one of the ways I have mentioned the latter have used up, in their assaults, certain constituents of the body fluids, which are necessary for their life, which are replaced only with difficulty and after a considerable time, and yet are not essential for the vitality of the whole body. Thus, small-pox, scarlet fever, measles, whooping cough, and typhus fever do not usually attack the same person more than once, and the rarity of the exception only proves this rule. If we could be sure of the patient surviving the attack we might inoculate with the original disease at once. But we cannot be sure of the patient surviving the original disease. Yet is it possible to alter the original disease, to change the constitution of the germs, so that they shall be unable to kill the body, but shall yet exhaust the pabulum necessary for their growth to such a degree as to prevent other forms of the same kind laying hold of the system?

I have already alluded to the practice of inoculation for the small-pox, and to Jenner's observation that cow-pox protected from the more serious disorder. We are told that M. Pasteur dwelt long on Jenner's work, pondering on the question whether a vaccine could not be found for other diseases than small-pox. The results of his thinking, and of his experiments upon the germ of chicken-cholera—the way to which was opened up by an accidental observation—were declared to the Académie des Sciences on the 26th of October, 1880. I have mentioned that the virus of chicken-cholera can be cultivated indefinitely in prepared sterilised chicken-broth, by inoculating one portion of sterilised broth from another infected portion, and so on. This is true, provided that too long an interval is not allowed to elapse between the successive inoculations. But if, on the other hand, the broth cultivations of this germ were allowed to remain for some considerable time exposed to the air, but protected from admixture with other germs by a layer of cotton wool, and then other portions of broth were infected from them, Pasteur found that although the form of the germ had undergone scarcely any change, its power of reproducing the disease had been greatly modified. After a certain period, the longer the germ was maintained in contact with the air, the weaker its action became, until at last it had lost entirely its toxic power. Moreover, when cultivations were made from a weakened virus, and continued cultivations carried on, the successive growths retained this modified physiological action. Again, taking a growth which had had its power weakened by exposure to such a degree that it merely made a fowl somewhat ill, and did not kill it, Pasteur found that the fowl experimented upon was now proof against the poison of the chronic form of the disease, which he had previously observed to be by far the most virulent. For chicken-cholera, then, the problem was solved. A vaccine had been found similar to Jenner's vaccine, capable of propagation with retention of its modified powers. It is true that it was not safe to proceed directly from the inoculation of the very weak virus to that of the strongest. Jenner's vaccination is not absolute protection against a strong small-pox poison. It was desirable, then to gradually accustom the fowl to stronger and stronger powers of the virus, until at last the strongest was reached.

How was this modification attained? Pasteur appealed again to experiment, and observed that when his cultivations were protected from air they might be kept for an indefinite time without losing their virulence. It was then, he concluded, the oxygen of the air which caused the attenuation. The first portions of oxygen served for the life of the parasite, for it was an ærobic germ; the further portions weakened its powers. Here, said Pasteur, we may have not only an isolated fact, but a principle, that exposure to oxygen will weaken not only the virus of chicken-cholera, but that of other diseases, that it may be the action of the oxygen of the air which causes the limitation of great epidemics. This may well have been an inspiration of genius, and the inspirations of such a man as Pasteur will extremely probably lead to the truth. But not even a genius can afford to run beyond his facts, and the facts at Pasteur's disposal did not warrant an unqualified acceptance of his theory. It is curious that in even his first paper Pasteur alluded to another view explaining virus attenuation—that there might be an admixture of viruses, the one weak, the other strong, the one counteracting the poisonous but leaving the vaccinating effects of the other. He did not accept this view, but in mentioning it he foreshadowed an objection which has been raised, in regard not only to the attenuation of fowl-cholera, but to that of other diseases on which he has worked. Other observers have found that his vaccine fluids have not been pure, that other forms of micro-organisms had become mixed with the original poison. Now, there is a sort of internecine war amongst these low organisms; they fight amongst themselves as to which shall take the opportunity to do evil. It is suggested that the reason why the virus becomes attenuated is that there has gone on a growth of an entirely different microbe, which has modified the action of the first. Pasteur denies this, but it is to be noted that he did not employ the fine methods of detecting and differentiating germs which have been worked out by the German scientist Koch. Be this as it may, Pasteur used his theory of the attenuation of virus by the action of oxygen as a working hypothesis, and immediately proceeded to test its applicability to other germs.

Chicken-cholera was a comparatively small matter, as regards the loss to the farmers which it entailed. Another greater trouble attacks cattle, sheep, and horses, and is widely spread over many countries. It is known variously as the splenic fever, charbon, milzbrand, black-quarter, the Siberian pest, the murrain, and it is even communicated to human beings, causing the so-called malignant pustule of the dock labourers, who handle infected hides, and the Bradford wool-sorter's disease. This also is a germ disease, and its micro-organism was discovered in 1849 by Pollender, and independently by Brauell. Its connection with the disease was shown by Davaine in 1863, but the life-history of the parasite was worked out by Koch, and published in one of his earliest papers. In 1881, the devastations of the disease were in France much less than they had been, for, in fear of the pestilence, farmers had greatly diminished their flocks; nevertheless, the losses were very great. There is a district of France lying between Chartres and Orléans, which is extraordinarily fertile, and is known as La Beauce.

In this district, in 1842, one fifth of the sheep died annually from this disease, and in 1881, one tenth. In 1842 the loss to the farmers was estimated at seven million francs a year, and in 1881 at three million francs. Pasteur then directed his attention to the possibility of procuring a harmless vaccine for the disorder, using as his guide the theory of attenuation by oxygen, which he believed to have been indicated by his experiments on chicken-cholera. But the attenuated virus can only be protective when the disease occurs but once in the same subject. Hitherto this was unknown, but accidentally Pasteur and his assistant Chamberland found several cows which, after inoculation with the poison, and after suffering severely, at last recovered. The same cows when re-inoculated, even after an interval of a year, were unaffected by the poison.

Thus, then, the disease presented a fair field for the application of Pasteur's new theory. He appealed again to experiment, attempting, by exposing his cultivations of the germ to the air, with due precautions, to attenuate the virus—but he failed. This, however, was only a further stimulus to Pasteur to ascertain the cause of the failure. Indeed, I think we may accept it as an excellent guide to experiment, that the failure of a preconceived notion means that a new fact is presenting itself for observation, something that we did not know before, or which we thought was incapable of interfering with the experiment. Pasteur soon found the cause of his failure. The germ of chicken-cholera has only one form, and reproduces itself by division and multiplication of the elements, the new parts of the germ having exactly the same properties as the parent germ. The germ of splenic fever, the anthrax bacillus by name, grows in the same way at times, but it has also another method of reproduction. In the centre of each of the rods representing the germ there forms a round or oval body, behaving very differently in its chemical reactions to colour-reagents than is the habit of the parent rod. This round or oval body is the spore or egg of the germ. It becomes in time separate from the rod, and afterwards develops into a rod, and possibly into a series of rods, which under suitable conditions, again develop spores. The germ then has a dual existence, as rod and as spore. But the vitality of the two forms is very different. The rod can be comparatively easily destroyed, but the spore may remain dry, exposed to the air and starving, as it were, for years, and yet retain its power of reproducing the virulent disease. The method of attenuation which Pasteur had made use of in the case of chicken-cholera, would clearly be useless in dealing with the anthrax bacillus so long as the power of generating spores remained. Pasteur then had this problem before him: How to grow the anthrax bacillus without spores? This he soon solved. The anthrax bacillus grows only within certain well-defined limits of temperature, namely, 16°C. to 45°C., and below the one or above the other temperature no reproduction whatever can take place. Moreover, Pasteur observed, that as the limits of vitality were nearly reached, the germ reproduced itself only as rods; it had lost the power of forming spores. In this state Pasteur's formerly successful method of attenuation could be again tested. He did so test it, and discovered that when the germ was grown at a temperature between 42° and 43°C., and exposed to the air for eight days, all virulence was lost. Before this stage was reached, just as in chicken-cholera, grades of attenuation were observed, which could be reproduced by cultivation, and retain their modified powers. An animal might be inoculated with a weak virus, be made slightly ill, and recover. Then it was proof against a stronger virus, and after that the most powerful virus produced no effect. Thus again did Pasteur attain a great result, which seemed likely to benefit hugely his fellow creatures. But all this was mere laboratory work, and how often do we see that chemical methods, apparently admirable in the test tube and microscope stage, fail utterly when applied to practical every-day use? Pasteur, however, had faith in his results. He challenged the most searching test, and this was applied at Pouilly-le-Fort in May, 1881. On May 5th, twenty-four sheep, one goat, and six cows were inoculated with an attenuated virus of anthrax. On May 17th all these animals were inoculated with a somewhat stronger and yet an attenuated virus. On May 31st the animals were inoculated with the strongest virus, and at the same time an identical poison was injected into twenty-four sheep, one goat, and four cows, who had not been previously vaccinated. A meeting was arranged for two days later (June 2nd) in order that the result might be observed.

It is desirable that sensation should be entirely eliminated from all scientific procedures. Yet for this afternoon we are not severely scientific, and I may be allowed to quote the graphic account of the result given by M. Radot, the son-in-law of M. Pasteur, whose book on the life and labours of Pasteur has been admirably rendered into English by Lady Claude Hamilton.

"More than two hundred persons met that day at Melun. The Prefect of Seine-et-Marne, M. Patinot, senators, general counsellors, journalists, a great number of doctors, veterinary surgeons, and farmers; those who believed and those who doubted came impatient for the result. On their arrival at the farm of Pouilly-le-Fort they could not repress a shout of admiration. Out of the twenty-four sheep which had not been vaccinated, twenty-one were dead; the goat was also dead; two other sheep were dying, and the last—already smitten—was certain to die that very evening. The non-vaccinated cows had all voluminous swellings at the point of inoculation, behind the shoulder. The fever was intense, and they had no longer strength to eat. The vaccinated sheep were in full health and gaiety. The vaccinated cows showed no tumours; they had not even suffered an elevation of temperature, and they continued to eat quietly."

"There was a burst of enthusiasm at these truly marvellous results. The veterinary surgeons especially, who had received with entire incredulity the anticipations recorded in the programme of the experiments, who in their conversations and in their journals had declared very loudly that it was difficult to believe in the possibility of preparing a vaccine capable of triumphing over such deadly diseases as fowl cholera and splenic fever, could not recover from their surprise. They examined the dead; they felt the living.

"Well," said M. Bouley to one of them, "are you convinced? There remains nothing for you to do but to bow before the master," he added, pointing to Pasteur, "and to exclaim: 'I see; I know; I believe; I am undeceived.'"

"Having suddenly become fervent apostles of the new doctrine, the veterinary surgeons went about proclaiming everywhere what they had seen. One of those who had been the most sceptical carried his proselytising zeal to such a point that he wished to inoculate himself. He did so with the two first vaccines, without other accident than a slight fever. It required all the efforts of his family to prevent him from inoculating himself with the most virulent virus."

Pasteur's researches were, as was to be expected, immediately subjected to searching criticism. It was asserted that the method of vaccination was dangerous to the animals upon which it was practised. To a certain extent this was true, for the attenuation of the virus was not always uniform. This Pasteur recognised, but thought that all risks would be covered by a small guarantee fund. Again, it was said, and said truly, that the immunity obtained against the disease was not everlasting. Neither is that of Jenner's vaccine. The duration of immunity obtained by Pasteur's inoculation was proved to at least exceed a year, or one third the ordinary life of a sheep, and then the inoculation might safely be again performed. It was maintained that the immunity was only against the injected virus, not against that spontaneously absorbed by animals through the medium of their food. But what did the results show after time had elapsed for a sufficient accumulation of facts? Among 32,550 sheep inoculated the mortality from anthrax was 1 in 740; among 25,160 not inoculated the mortality from anthrax was 1 in 78; and similar results were obtained from the inoculation of horned cattle. The most serious criticism of Pasteur's results came from Dr. Koch, yet on careful reading of his paper it seems to me to deal greatly with mere minor matters, and in its final passage admits the main point that Pasteur had given full and complete proof that artificial immunity could be obtained. Dr. Koch and his colleagues indeed lent precision to Pasteur's method by indicating the exact temperature, 42.6° C., at which the attenuation could be best conducted. Further researches by various observers led to the discovery of other methods of attenuating virus. Toussaint had previously shown that by heating the bacillus anthracis to 55° C. for ten minutes, its virulent action was destroyed, and yet it rendered the animal inoculated with it safe against the ordinary poison. Pasteur showed that this was true, but that the attenuation was transient, and was also uncertain, and therefore the method unsafe. Again, Chauveau found that to heat the organism to 47° C. for a certain time, attenuated its powers, and that the result could be obtained more rapidly in this manner than in that invented by Pasteur. He showed again that similar changes could be produced by keeping the germ at a temperature of 38°-39°C. under a pressure of eight atmospheres. Chamberland and Roux also tested the action of antiseptic substances upon the germ, and arrived at this: that carbolic acid, and other substances of similar germicidal properties, could attenuate the virus. The germ kept for twenty-nine days in a broth containing $\frac{1}{600}$ carbolic acid does not kill guinea-pigs or rabbits, but protects them from the action of stronger poisons.

Most curious results, too, have been obtained by inoculating the poison of one animal into another of a different species. Toussaint found that the germs of septicæmia in the rabbit closely resemble, even if they are not identical with, those of chicken-cholera. He arrived at the startling result that if fowls were inoculated with the blood of rabbits dead of septicæmia, they were proof against further attacks of chicken-cholera. Thus by passing through an animal of a different species, the germ lost its virulent, but retained its vaccinating, properties. Later on, Pasteur and Thuillier experimented upon the organism of swine-plague. The poison of this disease—a germ resembling those already mentioned—was poisonous to pigeons; and when inoculated from pigeon to pigeon, its virulence increased, not only in regard to the pigeon, but also to pigs. The same poison killed rabbits, and inoculation from rabbit to rabbit increased the virulence as regards the rabbit. But the virulent poison of the last rabbits of a series is much less virulent to pigs than it was at first. It ceases to kill them, but protects them from all further attacks. In a still later series of experiments Pasteur discovered that a similar germ—that of sputum-septicæmia, which was at first mistaken for that of hydrophobia—rapidly killed rabbits, but was innocuous to adult guinea-pigs. Yet it could kill very young guinea-pigs, and if the germ were from them conveyed to older and still older guinea-pigs, it became excessively virulent, and killed them also. But now, after passing through the guinea-pig, the poison had entirely lost its power of infecting rabbits, but still protected them from further attacks. Later in his work, as will be related below, Pasteur found that the hydrophobic poison was similarly attenuated by passage through monkeys. After considering these facts, one is driven again to ask, as was asked, and, indeed, investigated in vain years ago, whether Jenner's vaccine is not an example of a similar attenuation?

Another disease succumbed to protective inoculation. Chabert's disease, as it is called, was confounded for a time with anthrax. It is characterised by high fever, and widely spread inflammation of the connective tissue; it occurs in young cattle and lambs. Its poison can be attenuated, and will then after inoculation confer immunity. It is interesting to note also that if a small quantity of the fresh virus be injected into the loose connective tissue of any part of the body, slight indisposition follows, but absolute further immunity results—a counterpart of the ancient practice of inoculating for the small-pox.

But have these diseases become essentially changed during these various modifications? Are they entirely different disorders, incapable of ever reproducing the virulent diseases from which they originated? Another question, this, which Pasteur solved, The poison which no longer kills a fowl with chicken-cholera, would still kill a small bird, such as a canary, and by successive cultures through larger birds could at last regain all its old virulence. The poison which no longer killed a sheep with anthrax could kill a guinea-pig one day old, and again by successive inoculations would regain its old power over the sheep. Pasteur had formerly suggested that exposure to the action of oxygen might be the explanation of why epidemics of infectious diseases declined. Have we not here, said he, in the facts of re-installation of virus an explanation of why infectious diseases have apparently originated *de novo*, and why epidemics of formerly known diseases recur. The poison has for ages been too weak to attack a bulky animal like man, but it has become gradually enforced by passing through the bodies of smaller animals, and so new virulences and contagions have been formed.

The natural immunity of some animals from certain infections gave rise to an interesting experiment, which, though somewhat out of place, may be related here. Fowls are absolutely incapable, in the natural state, of being inoculated with the anthrax germ. Why is this? The temperature at which the anthrax bacillus ceases to grow is about 44°C., as I have already stated. The temperature of a fowl is between 41° and 42°C. In a simple fluid the bacillus would easily, even at this temperature, assume the oxygen requisite for its growth. Pasteur thought, however, that in the blood matters might be different. The red corpuscles

would cling to their oxygen, and their tenacity might more than compensate for the 3° of temperature which separated that of the blood from the life limit of the bacillus. But if the blood of the fowl were cooled the struggle would be less equal, and the increased vitality of the germ would overcome the grasp of the corpuscles on the oxygen. He made the experiment. A hen was inoculated with splenic fever blood, and by placing its feet in cold water its body temperature was lowered to 37° or 38°. In twenty-four hours it was dead of anthrax. Moreover, if the hen, before its death, were taken out of the cold water, wrapped in wool, and kept at a temperature of 35°, its body temperature again rose, its strength returned, and in a few hours it was well. The fight between the corpuscles and the bacilli had been won by the former, and the latter disappeared.

Pasteur's inspiration, that oxygen was the active agent in inducing the attenuation, had been much attacked. Chauveau, for instance, found that when germs were heated to 47°C. attenuation was more rapid when the air was exhausted. Apparently it was the heat which was the active agent. Nevertheless, Pasteur still used his theory as a working hypothesis, and we shall now see what is, for the present, the final and most brilliant result of his researches.

In the diseases previously mentioned a definite germ had been found, and the connection of the germ with the disease abundantly proven before any attempt had been made to attenuate the poison. Yet there are many diseases of which the course of the symptoms and the methods of occurrence create a strong suspicion—almost a certainty—that they are germ diseases, and yet so far no germ has been discovered in relation to them. Of these, perhaps the most terrible is hydrophobia. In man, at least, it is absolutely incurable ; it causes the most painful of deaths, and the fear of the outbreak haunts the victim for a considerable time before the actual symptoms begin. Pasteur and others had hunted diligently for the germ of this disease, but without success. Whatever the germ may be it is something entirely different in form and physical characters to any already known. It has been suggested that curious granular bodies seen in the nervous system of rabid animals may be the actual poison, but this is not yet proven. Baffled in his search for the germ by its strange physical characters, Pasteur nevertheless tested whether its physiological characters might not be the same as those already known. To do this it was necessary to obtain the poison in as nearly as possible a state of purity. Since the method of cultivating the germ was not applicable, other means had to be found to free it from—at any rate—the germs of other diseases.

M. Radot again gives a most graphic account of how Pasteur obtained poison from the saliva of a rabid dog. "Not long ago," he writes, "a veterinary surgeon telegraphed to him : 'Attack at its height in poodle-dog and bull-dog. Come!' Pasteur invited me to accompany him, and we started, carrying six rabbits with us in a basket. The two dogs were rabid to the last degree. The bull-dog especially —an enormous creature—howled and foamed in its cage. A bar of iron was held out to him : he threw himself upon it, and there was great difficulty in drawing it away from his bloody fangs. One of the rabbits was then brought near to the cage, and its drooping ear was allowed to pass through the bars. But notwithstanding this provocation, the dog flung himself down at the bottom of his cage, and refused to bite. Two youths then threw a cord with a slip-loop over the dog, as a lasso is thrown. The animal was caught, and drawn to the edge of the cage. There they managed to get hold of him, and to secure his jaws ; and the dog, suffocating with fury, his eyes bloodshot, and his body convulsed with a violent spasm, was extended upon a table and held motionless, while Pasteur, leaning over his foaming head, at the distance of a finger's length, sucked up into a narrow tube some drops of the saliva. In the basement of the veterinary surgeon's house, witnessing this formidable *tête-à-tête*, I thought Pasteur grander than I had ever thought him before."

The poison then was present in the saliva of a rabid dog, but with it was the germ of sputum-septicæmia, which I have already mentioned. A most virulent poison was, however, found in the nervous system of an animal dead of rabies, and when due precautions were taken in removing the spinal cord, the poison therein contained was absolutely free from foreign microbes. An emulsion of such a cord would reproduce hydrophobia, in all probability if injected into the circulation of another animal, with absolute certainty if, by the operation of trephining, it were placed in direct contact with the brain. Pasteur accidentally met with a dog which had recovered from inoculated rabies, and this animal was found to be proof against further poison, even when applied by means of trephining. He was, therefore, encouraged in his attempts to obtain a vaccinating fluid for the disease. Rabbits, guinea-pigs, fowls, and monkeys were experimented upon, and it was found possible to inoculate all these with the fatal disease. Further, from such inoculated animals the disease could be re-transferred to dogs, but not absolutely in an unchanged state. In passing from dog to rabbit, and then from rabbit to rabbit, and so on in series, the poison increased greatly in virulence. The first rabbit inoculated would present symptoms after a period of about fifteen days. After passing through forty-six rabbits the incubation period was almost constantly seven days, and the poison would then cause rabies in dogs after an incubation of from eight to ten days. In guinea-pigs similar results appeared. But when the virus was passed from dogs to monkeys, and afterwards from monkey to monkey, it became feebler at each passage. After passing through several monkeys, a poison is obtained which, when inoculated in the dog by trephining, in most cases caused no symptoms of hydrophobia, but protected the animal from a stronger poison. In this way a series of poisons could be obtained, extending from the innocuous monkey virus to the most virulent rabbit poison, and the weakest of these protected from the next in series, and so on.

This method, however, was not absolutely certain in its results, and, moreover, was slow in process. The poison of a rabid dog, inoculated into a human being by a bite, remains dormant for a certain time—on the average six or seven weeks. An uncertain interval will probably elapse before the patient comes under treatment, and what is desired for practical purposes is that between the bite and the onset of symptoms an inoculating fluid should run through the whole of its course so as to produce immunity before the strong poison is completely incubated. In England we believe that Jenner's vaccine can so outpace the small-pox poison. The hydrophobic poison, attenuated as I have described, is not sufficiently rapid in its work. Now came in Pasteur's working hypothesis. He had obtained an excessively-strong poison of constant virulence. Possibly it could be attenuated by exposure to the air, like the other poisons he had worked with ; therefore he suspended spinal cords from infected

rabbits in jars, the air in which was rendered aseptic and dry. Thus the goal was reached. The rabic effects of injecting portions of such spinal cords into dogs decreased in power the longer the cords were so kept.

A portion of cord thus treated for fourteen days would not kill a dog, and after its injection, that of sixteen days ceased to kill. Thus proceeding from weaker to stronger cords, at last the most virulent cord—containing poison much stronger than that of a mad dog's saliva—can be injected with impunity, and total immunity is reached. The whole course of such treatment can be completed in sixteen days at most, as a rule before the poison inoculated by an ordinary bite can have incubated. But bites inflicted on the face, and those by wolves, have a shorter period of incubation than those on other parts of the body, or inflicted by dogs. For these cases an intensive treatment was conceived, into the details of which I need not enter. Its course could be completed in seven days, but as a further safeguard, it is repeated in a modified form once or twice. The interpretation of this method of attenuating virus has also occupied Pasteur's mind, but as yet no definite conclusions have been arrived at. He thought that the extension of the incubation period observed in the long-exposed spinal cords pointed to the fact that not the strength, but the quantity of the virus contained in the cords progressively diminished. Pasteur, and also Bardach, have shown by experiment that the strongest poison taken in a recent state from a rabbit may be with impunity injected into a dog, if only a small quantity be used, and afterwards larger and larger quantities may be injected until absolute immunity is attained. Yet this method is uncertain in its results. The theory which at present attains the greatest favour with Pasteur is that of bacterial suicide, to to which I have already incidentally alluded. It has been ascertained that bacteria in the course of their growth produce certain chemical substances, which inhibit their action. Possibly, when the virus is apparently attenuated, the quantity of the germ is diminished, but that of the counteracting fluid produced by it is increased, and so no ill results follow. At present, the facts observed in support of this view are few, but the question is being diligently worked at by experimenters.[1] The details of treatment do not concern the subject of my address. The results of the treatment required time and experience for their due appreciation. Now, they may be judged with confidence. The statistics have within the last few days been most carefully arranged and published by Dr. Ruffer. In short, they may be stated thus. All doubtful bites are rejected, and every precaution taken against error. The lowest possible mortality which can be calculated of patients who were bitten by rabid animals, and not treated, is 15 per cent., and probably this is much *under* the mark. The highest possible mortality which can be calculated of patients who were bitten by undoubtedly rabid animals, and were then subjected to Pasteur's treatment, is for the year 1887 1.52 per cent, for 1888 1.31 per cent., and probably this is much *over* the mark. Such numbers place beyond doubt the value of Pasteur's discovery, and render it desirable that his treatment should be within the reach of all. This then is for the present the practical limit of these researches, but we are still only on the threshold of the discoveries which may be made by the application of these methods.

An introductory address, like a fable, should carry a moral; and mine, as being somewhat longer than an ordinary fable, may be permitted to have two morals. There was a time when it was difficult to persuade students, and even practitioners of medicine, that it was necessary to know physiology before one could learn medicine. Those days have gone: it is now accepted by all that the man who has the most competent knowledge of physiology is in the best position to become a successful practical physician. It would seem that if the science of the normal body were necessary, *à fortiori* that of diseased states was doubly so; and yet, such experience as I have had as a teacher leads me to say that even now students by no means appreciate the intimate connection between pathological science and practical medicine. The researches I have endeavoured to put before you were in the domain of pure and even obscure science, yet they have led, as you see, to the most important practical results. We cannot all hope to make such discoveries. But let me impress upon you also that it is its scientific basis which gives to the art of medicine extreme interest to its practitioner, which renders it so much more absorbing than any other of the learned professions. There will come to you all in after life a period in which the public is little inclined to trust your skill, and just as little disposed to pay you for your labours. Moreover, when the reward does come, if prognostics may be trusted, it will be scarcely commensurate with the toil expended for it. To all these are trials. To him who has learnt his profession by rule of thumb there is but little solace, and all his future work must be labour, and nought else. On the other hand, to him who knows what a great field of observation is open to him, and whose studies have fitted him to appreciate the great wonders which surround him, there is another reward than that of mere worldly gain: as one of our own physicians once put it to me—"One's work is a great comfort." My first moral, then, is, that you should on no account neglect the scientific aspects of your studies, in that they will render you the better practitioners, and console you in your many troubles.

My second moral is, that you should always be working, and be not disheartened by difficulties. I would enforce this precept by the examples of two men—Pasteur and Koch—whose names I have mentioned this afternoon. M. Pasteur was trained as a chemist, and by education knew nothing of Medicine. Led by his researches upon the tartrates and the para-tartrates to an investigation of those living ferments which played a part in the chemistry of these salts, he applied his great observant powers to an elucidation of the life of the infinitely little. Gradually he unfolded the science of vinegar formation, and of the causes for wine going wrong. He was then induced by his master, Dumas, to investigate the silk-worm diseases, which were at that time ruining the industry of the south of France. The results of his observations have, it is said, saved to the French more than the milliards taken from them by the Germans. In 1868 he was smitten by paralysis of one side of his body, from which he has not completely recovered. This would be for most men a sufficient excuse to cease work; but Pasteur sought only excuses to continue work, and disabled as he was, he journeyed to Saint Hyppolyte du Fort, and afterwards to Trieste; and there, reclining in an arm chair,

[1] In a recent number of the *Brit. Med. Jour.*, Oct. 12th, 1889, p. 810, Mr. E. H. Hankin has published a preliminary notice of experiments, which shew that for the anthrax bacillus the substance which protects an animal against its action is an albumose, produced by the bacillus. It would appear that it is by means of this albumose that the bacilli overcome the germicidal power of the animal. Yet by injection of small doses of such albumose, tolerance is established, and finally immunity from the action of the germ itself.

directed experiments confirming his previous observations on the pébrine and flâcherie of the silk-worm. Still working, he studied the diseases of beer, and afterwards devoted himself—and is even at the present time devoting himself—to the subjects of which I have given you a sketch to-day. Dr. Koch was an obscure country practitioner in Germany, and whatever may be the hardships of country doctors in England, in Germany their condition is far worse. Yet he worked at something more than the mere routine of his profession, and in his country surgery with but the simplest appliances, pursued those observations upon septic disorders which have made his name famous. As Director of the Hygienic Institute of Berlin, he also continues working, and has founded a great school of scientists, whose labours upon the subjects of tuberculosis, cholera, diphtheria, and disinfection, have benefited their profession and honoured their country. May we follow the examples of these two men, and all of us, even in a humble way, endeavour to leave the world somewhat better than we found it.[2]

Special Articles.

THE WORKING CLASSES.

On August 1st, 1874, the centenary of Joseph Priestley's discovery of what he called dephlogisticated air, but which French chemists subsequently named oxygen, a statue of the great chemist was presented to the town of Birmingham, and Professor Huxley delivered a characteristic and eloquent address—subsequently published, with many additions, in *Macmillan's Magazine* for October, 1874. Mr. Huxley's address has been so widely and attentively read, and in so many forms reprinted, that its substance must be familiar to my readers. Although not near enough to catch Huxley's words, I was close to him at the public ceremony, and can recall the pleasant excitement in the town at the time, and the almost unanimous feeling that England, but more particularly Birmingham, was advancing by leaps and bounds, socially, morally, and politically, and my readers will not forget that we were then in the midst of a golden commercial age. Knowing what Birmingham did of Huxley's broad and unconventional views on social, religious, and scientific questions, it was expected that he would pay a generous tribute to the labours and achievements of the great chemist, whom an ungrateful country banished to the United States. Still more surprising would it have been had he not spoken with warm, though qualified, approval of the religious opinions of a man who was theologian and politician, as well as chemist and discoverer. Huxley reminded his hearers that Priestley believed in the possibility, rather than in the certainty, of human perfection; and though Huxley hesitated to say so positively, he evidently expected continuous progress, and thought that in morals, science, religion, and politics, great advance had been made since Priestley was persecuted by his fellow-townsmen. No one can deny that from the hour of Priestley's birth to that of his death, improvement in the arts and sciences was continuous, and during the whole time that has since elapsed, there has been change, and not only material, but, let us fervently hope, moral progress. I confess, nevertheless, that I hesitate to accept the eager hopes of many excellent Unitarians as more than brilliant visions of what might be—visions inspired by that devotion to progress and love of freedom for which many of Priestley's co-religionists have always been conspicuous. Nor am I sure that there is sufficiently solid foundation for the promises of continuous social amelioration which scientific men hold out. From my earliest childhood I have felt the deepest interest in the working-classes—their patient, uncomplaining heroism, their thriftiness, their great temptations. Often, when a little boy, I used to pass hours at a time in the grimy workshops of Staffordshire nailers, listening to their simple talk, and perhaps being more deeply impressed by the wisdom of their political opinions than now (looking back a quarter of a century) seems possible. How easily those unsophisticated farm labourers and hammer makers would have cut the knot of great social difficulties; how direct their remedies for existing anomalies. The ways of children please the child; and working-men are often little more than children of larger growth, and trouble themselves not at all with any deep scrutiny into human motives, and the complex problems of modern society, with its mutual checks and conflicting interests.

In spite of revelations regarding the sweating system—not by any means novel, as Alton Locke must remind my readers—in spite of the suffering of the unemployed, both of those who cannot and of those who will not get work, in spite of Bitter Cries, advance there has been, and advance is going on all around us. We may not think ourselves in Paradise, and yet we must admit this. Things must have been incomparably worse a few generations ago than anything we see about us to-day. If anyone doubts the reality of modern improvement, let him take up Macaulay; and without necessarily endorsing every word, he will wonder how, if what that great historian says is true, the working-classes kept body and soul together a few centuries ago: so deep was their degradation, so brutal and sensual the character of their masters. Turn where we will to the writings of historians and sociologists, we are told of improvement, discovery, increased wealth everywhere; and if we read any magazine or review, not pledged to uphold the familiar and time-honoured, the same picture meets us of rapid progress and constant amelioration in the condition of nations and classes: this I cannot deny, and I am indeed thankful for it. But when, turning from the records of Roman feasts and gladiatorial combats, from narratives of the intolerance and persecution of the Middle Age, from eulogiums of the present, I wander—according to the custom of many years, dating, indeed, from the ripe age of eight—through the squalid haunts where vice, intemperance, disease, and irreligion hold their hideous revels. When I compare the numbers and habits of those degraded millions, whom we scornfully call the masses, with the condition of the small minority forming the dominant classes, I am constrained to admit that the misery in this favoured and prosperous land is still appalling in amount and intensity. I do not blame anyone for it, and I no longer expect much from legislation: the people must be radically improved, bodily raised, and that can only come from a change in their morals and manners, which must necessarily be slow. But it is not the outcasts alone whose condition calls for regret—worse still, some knowledge of the manners of the privileged few makes me doubt whether, as a class, they deserve special respect and homage. Their vices and shortcomings are, in their way, as strongly marked as those of their inferiors; and though

[2] In compiling the above address, the original papers were referred to as far as possible. The writer, however, wishes to acknowledge the assistance he received from M. Radot's "Life of Louis Pasteur," translated into English by Lady Claude Hamilton; and from the admirable collection of translations and abstracts on "Attenuation of Virus," by Dr. Dawson Williams, published by the Sydenham Society.

less repulsive to the superficial inquirer, their moral turpitude often leaves little to choose: in short, nowhere are purity and contentment the distinguishing characteristics of a class.

When, my confidence in the excellence of the present shaken by observation and reflection, I take up the works of men who, whatever their religious or political opinions, are not blind admirers of the present, what do I find? When I study Froude's pictures of the almost forgotten pre-Reformation days, and Charles Kingsley's panegyrics on the manliness and heroism of the sailors and statesmen of the Elizabethan age—and surely Froude and Kingsley stand in the van of liberal and fearless thinkers—I must admit that the advantages of the present may not be above dispute; and that, though modern changes are undoubtedly vast, there is no saying how much of those changes have been improvement, nor how many of our reforms are for the better. And my suspicion acquires strength that many schemes for the regeneration of this nation, and indirectly of the world, are sometimes only attempts to undo the evils of recent changes of manners and habits, when I find eminent writers pointing with indignant horror to cankers in our social system, which, from the very nature of the case, can only be of modern growth. Take, for example, Mrs. Beecher Stowe's comparison, in "Uncle Tom's Cabin," of the condition of English mechanics and farm labourers with that of negroes in Carolina and Louisiana. Mrs. Stowe probably obtained her information respecting our countrymen from the periodicals and newspapers which came in her way during her stay among us, and what she read did not prepossess her favourably. True, Lord Carlisle emphatically denied the fidelity of her comparisons; and Sir Arthur Helps, one of the kindest and best of men, in a paper in "Fraser," over thirty-seven years ago, attempted to disprove the accuracy of her strictures, as far as concerned our working classes. But the fact remains that foreigners, from what they have read and heard, are not always convinced of the immunity of English artisans from the miseries that undoubtedly darken the lot of foreign labourers, but which some of us venture to hope do not invade our happier shores. Mrs. Stowe's strictures have been repeated by many continental writers, in some cases from their own knowledge, in others relying on what some of our countrymen have divulged. And, again and again, as a sorrowful refrain to the descriptions which enthusiastic writers and orators give of the prosperous condition of our countrymen, we hear accounts of such misery and temptation, such grinding poverty, such living death, such a struggle for the bare necessaries of existence, that we wonder who is right, who wrong; but for the credit of our common humanity hope that exaggeration and falsehood underlie some of the terrible tales that, from time to time, force themselves upon our notice, and almost make us despair of our species.

Marvellous progress is being made in every department of science and art, and the appearance of the country is in consequence being totally changed. What were a few years ago the luxuries of the rich, are now the possession of the poorest, and never in modern times has money gone farther. Year by year, and as the result of the utilisation by practical men of the crude suggestions of the very unpractical men, who devote their lives to original research, and fancy, when they have got an inkling of something new, they have done all that could be expected, there is rapid increase in the national wealth, and, at the same time, vast schemes for the amelioration of our countrymen are yearly broached. For whose benefit is modern legislation in the main—for that of the poor—the extension of the franchise, board schools, county councils, third class fares, cheap books, the enlargement of hospitals, and much else, are far more for the poor than for the middle and upper classes. But it is unfortunate that the progress of the arts, good in itself, is not everything, and the greater cheapness of the luxuries of civilised life is not productive of all the good contemplated. There is increasingly greater profusion, but man's wants increase *pari passu* with the development of commerce. The savage wrapped in his tattered blanket is not so often a sufferer from cold as the English merchant who draws round his shivering limbs three coats, and a mountain of linen, flannels, and other garments. The children who, in every Irish town, run barefoot across the streets, suffer less from cold, and far less from corns, than their social superiors who squeeze their feet into tight and uncomfortable boots. The artificial life of our age is not everything, though undoubtedly in some respect an improvement on a simpler existence. The perplexed merchant, broken down by worry—that bane, as Sir Arthur Helps so felicitously called it, of modern life—is not always happier than the humble village carpenter or blacksmith, the oracle of an admiring circle: as much contentment may be found in a lowly cottage as in a stately mansion. Mere increase of wealth does not necessarily mean greater general prosperity, or a higher average of that peace of mind and sense of duty, the true standard by which to measure national progress.

Sometimes we forget that the conditions of modern life bring with them evils which it taxes our resources to the uttermost to control. The vaunted superfluity and luxury of our day are attended by diseases and miseries worse than those of simpler ages and races. Let it not be thought that I am a *laudator temporis acti*, and that my knowledge of the past and the present is so imperfect and one-sided that I fancy that any age or country ever was or ever will be free from care and sorrow. Never has there been, and, unless human nature totally changes, never will there be, a golden age. I am convinced that, on the whole, the condition of England is vastly better than formerly, though there remains great need of improvement; and with my tastes and opinions, life in England is pleasanter than life anywhere else. Yet can I easily perceive why, for example, James Fenimore Cooper should have preferred the freer institutions of his native land to those of England, and why many Italians and Germans should see more to admire in their respective countries than in England or America. The feeling of despondency that fills me when I read Walter Bagehot's lament that "it is dubious whether all the machines and inventions of mankind have yet lightened the day's labour of a human being" (and remember that what I have seen confirms his gloomy doubt), is more than I can express.

For one side of a most difficult question—the present condition of the labouring classes—take up a report published a few years ago by Mr. Brewer, one of the sub-inspectors of factories of that English desert, the Black Country, and what do you find? What do you find in the reports which many other inspectors have year by year laid before the nation?—sensuality, vice, lawlessness, misery, grief, that seem without a redeeming feature: men whose only pleasures are dog fighting, the prize-ring, the public-house, and sensual indulgence; women so lost to decency and good feeling, that they are indifferent to the brutal sports of their husbands, and sometimes actually take part

in them; children diseased, miserable, and neglected, in many cases born only to die: this is the drift of those repulsive narratives. I have myself seen, more than once or twice, a gathering of two thousand and over of the lowest sporting men of Birmingham engaged in rabbit coursing or pigeon shooting, which are among the chief amusements of certain classes of the midland metropolis, and I will not deny that a more frightful assemblage of unmitigated blackguardism I never wish to see. I cannot advise parents to let their sons study the real habits and language of the working classes amid the conditions in which I have investigated them. No harm came to me, however. I went alone, a curious observer of human manners and customs, and could not have been much more than eleven when I first found myself in such places. Fortunately, the opportunities I then enjoyed have been invaluable, and have given me an insight into the humbler classes that few professional men acquire, except occasionally doctors, whose knowledge of their poorer brethren would often shame that of the clergy. Let all this be conceded; still, thank Heaven! this vile residuum does not represent the masses of the nation.

Turn to the indignant defence of the South Staffordshire nailers, which the late Rev. R. Hone, one of the kindest and ablest of the Black Country clergy, published in reply to Mr. Brewer's report, and you find that the Venerable Archdeacon, whom in my childhood I knew intimately, and to whose virtues I can testify, qualified those dark statements. Mr. Hone did not altogether deny them, but from his knowledge of Halesowen, where he long and zealously laboured, he was sure that qualifications were necessary. Both Mr. Brewer and Archdeacon Hone were, it may be, perfectly right. Among the Black Country operatives, sensuality, drunkenness, and lawlessness abound to a degree enough to appal men of strong nerves—that is the black side. But, as Mr. Hone also knew and said, there were many redeeming traits. The miserable, squalid home, to those accustomed to it, is not necessarily uncomfortable. The rough language of colliers and nailers, intolerably offensive to persons of refinement, is not repulsive and disgusting to those who understand it, and can make proper allowance for it. Nay, the very sports, so brutal in themselves, so degrading as they seem to us, do not always show unqualified wickedness. How some of my collier friends loved their bull-dogs; they would have gone without their own dinner rather than let their favourites want a meal. How kind and tender some of those rough, coarse fellows are at heart! Without wishing to hold up for commendation, much less for imitation, the lives, homes, and language of Black Country men and women, I cannot allow that they are as miserable as one might fancy, and I am certain that they are not so bad as strangers would think. I have known men and women in those depths of society, more true and honest than the majority of their superiors; and it may be prejudice, but had I to choose between living with purse-proud, stuck-up tradespeople or with labouring men, perhaps I should prefer the latter.

Years ago, when a little child, I lived in a small village in Staffordshire, on the borders of Warwickshire, Worcestershire and Shropshire: a poor old man lived near whom I knew most intimately until his death, ten years ago. He was one of the most perfect gentlemen whom, in the course of a varied and busy life, it has ever been my privilege to know, and in many respects he was a second Isaac Ashworth. Archdeacon Hone knew the old shoemaker well, and had done so for forty years; he only needed to call that saintly peasant to mind to justify his indignant defence of his humbler neighbours. As I write, he seems to stand before me with his clear, rosy complexion, genial, sunny smile, contented, happy voice, and winning grace and courtesy of manner. His delight to see me was always unaffected and touching, and after I left the neighbourhood I felt that I had a friend there whom neither time nor distance would ever estrange. Once, after a long absence, I made my way to the little village in which I had lived for eight years, and as I approached his cottage door saw the old man looking out in the twilight. As soon as he caught a glimpse of me his face lighted up with an emotion which became too great for words, and quite choked his utterance. And not long before his death, when I wished him farewell for the last time, his tenderness and love were shown in his wonted touching and refined manner, but with greater solemnity. He had never wandered ten miles from his home, though he lived to be nearly ninety; he had never mixed with the great world; never even been a gentleman's servant, perhaps he would not have been a gainer morally had he been; simply a working man, not earning at his best more than fifteen shilling a week, often less. And yet he was shrewd and clear-headed, a kindly observer of human nature, gentle, upright and pure, one of Nature's gentlemen, on whom the Light of God had descended, and who, in his simple fashion, reflected the Christian graces. Born a churchman, he remained one to his life's end; and, hardly competent to judge of conflicting creeds and to weigh abstruse doctrines, went to the ancient parish church regularly, content to do his duty by all men. Often have I seen him there getting good and doing good to others and feeling that he was in his right place. Poverty came at last, as it generally does to his class, and he had to get parish relief, but he neither repined nor felt degraded; he was thankful for the mercies he had enjoyed, and ten thousand times happier than many a proud noble and self indulgent plutocrat, and when the Great Day comes that good old man will not lose his reward. How different would his life have been had not his guiding star been pure and undefiled religion, and had his faith in the wise purposes of God been rudely shaken.

I also knew in the same village another man, a hammer-maker, recently dead—tall and handsome—a splendid workman, incomparably a more gifted man naturally than many of my old Oxford friends. He was an artist, and had all an artist's pride in his work. Nothing was too hard for him; he moulded iron and steel with the same graceful facility as the master smiths of the Middle Age. He never rose to distinction, indeed he did not wish to rise, but in the little workshop of the factory, where he passed thirty years or more, and of which he was the model workman, he solved many a problem, and accomplished many a difficult task. He was not an abstainer, indeed he rather despised those who needed the protection of the pledge, but no public house ever took his large and well-earned wages; no coarse language ever fell from his lips; no degrading amusements had any attractions for him. He died rather suddenly in the prime of life, at any rate before reaching fifty, and his whole week day life, for over thirty years, was passed between the workshop and his garden; going straight from the forge to the latter and back again. His Saturday afternoons and his rare holidays were spent in his garden, and there he brought the same devotion, the same artist's fancy, the same orginality as to

what was more properly his life work. His were always the finest and earliest potatoes, the most splendid beans, the largest and sweetest peas, the best flowers, and the biggest gooseberries, strawberries and currants. A many-sided man; keen, shrewd, just and upright; continuous work was his delight, and his splendid frame enabled him to rise early and late to take rest, though perhaps he wore himself out prematurely. I cannot see how these two men could have been happier—would that more imitated their simple virtues.

Thus do I perceive that accounts, true to the very letter, of the condition and surroundings of great classes may convey false impressions to strangers. It is necessary to place one's self in imagination in the midst of the class described, and to feel like its members. Macaulay's brilliant pictures of the present century may be literally true, and so, in a different sense, may be Froude's and Hallam's description of the past, so may Kingsley's of the Devon men of three hundred years ago. Dress and externals do not constitute what is best and noblest in man. Everything must be taken into account—manners, pursuits, opportunities, feelings, aspirations, and surroundings; then only dare we assert that the sum of human happiness is getting greater or less. Generally speaking, those who know most and have seen most are happiest and wisest; but there are many exceptions. Knowledge is power, but power sometimes means distress of mind. Was not the knowledge of good and evil purchased by expulsion from the Garden of Eden?

As bearing on the present condition of English society, with its intense selfishness, fierce competition, unconcealed struggles, and rapid increase of wealth and population, the following extract from John Stuart Mill's "Political Economy" is of great interest. No thinker and politician was more free from blind veneration for the past, and unreasoning admiration of the present, and so he was better able than most men to estimate how vast might be the interval separating the activity and distractions of modern life from the calm repose of a prosperous and happy tone of society. "I cannot regard," he says, "the stationary state of capital and wealth with the unaffected aversion so generally manifested towards it by political economists of the old school. I am inclined to believe that it would be, on the whole, a very considerable improvement on our present condition. I confess I am not charmed with the ideal of life held out by those who think that the normal state of human beings is that of struggling to get on; that the trampling, crushing, elbowing, and treading on each others heels, which form the existing type of social life, are the most desirable lot of human kind, or anything but the disagreeable symptoms of one of the phases of industrial progress. The northern and middle states of America are a specimen of this stage of civilization in very favourable circumstances, having, apparently, got rid of all social injustices and inequalities that affect persons of Caucasian race and of the male sex, while the proportion of population to capital and land is such as to ensure abundance to every able-bodied member of the community who does not forfeit it by misconduct. They have the six points of Chartism, and they have no poverty; and all these advantages do for them is that the life of the whole of one sex is devoted to dollar-hunting, and of the other to breeding dollar hunters. This is not a kind of social perfection which philanthropists to come will feel any very eager desire to assist in realizing. It is only in the backward countries of the world that increased production is still an important object; in those most advanced, what is economically needed is a better distribution, of which an indispensable means is a stricter restraint on population. Levelling institutions, either of a just or of an unjust kind, cannot alone accomplish it; they may lower the heights of society, but they cannot raise the depths. There is room in the world no doubt, and even in old countries, for an immense increase in population, supposing the arts of life to go on improving, and capital to increase. But, although it may be innocuous, I confess I see very little reason for desiring it. The density of population necessary to enable mankind to obtain in the greatest degree all the advantages both of co-operation and of social intercourse has, in all the more populous countries, been attained. A population may be too crowded, though all be amply supplied with food and raiment. It is not good for a man to be kept perforce at all times in the presence of his species. A world from which solitude is extirpated is a very poor ideal. Solitude, in the sense of being often alone, is essential to any depth of meditation or of character; and solitude in the presence of natural beauty and grandeur is the cradle of thoughts and aspirations which are not only good for the individual, but which society could ill do without. Nor is there much satisfaction in contemplating the world with nothing left to the spontaneous activity of nature; with every rood of land brought into cultivation which is capable of growing food for human beings; every flowery waste or natural pasture ploughed up; all quadrupeds or birds, which are not domesticated for man's use, exterminated as rivals for food; every hedgerow or superfluous tree rooted out, and scarcely a place left where a wild shrub or flower could grow without being eradicated as a weed in the name of improved agriculture. If the earth must lose that great portion of its pleasantness which it owes to things that the unlimited increase of wealth and population would extirpate from it, for the mere purpose of enabling it to support a larger, but not a better or a happier population, I sincerely hope, for the sake of posterity, that they will be content to be stationary long before necessity compels them to it."

Whatever might once have been the case, how much is now done for working men—excellent popular free lectures everywhere, institutes, museums, fêtes, concerts, parks, excursions, cheap newpapers, literature offered at prices so low that if the mechanic will only give up his pipe he can have his daily paper, and if he will do without his beer he could every week buy one of the masterpieces of literature, which would be a joy to him for ever. As for workers among the poor, let the doctors, the sisters, the philanthropists tell. Nor are these generous toilers generally taken from the humbler grades and only hired for money. How many ladies of noble birth have given up all that seems most attractive at the call of duty. How often I have seen, to cite one instance among many, a lady, the daughter of an earl, working tenderly in the children's hospital, in which she has lived for years, cut off from home pleasures and from the congenial society of her own class. Sister Alice Mary gently and sweetly obeys her self-appointed mission. She takes the fretful little sufferers to her lap, and soothes them for hours at a time, shedding around the blessed sunlight of her love and self-sacrifice, and adorning the doctrine of her Saviour by the practical fruit of her own spotless and unselfish life: earthly rank is laid aside, and as a modestly-habited sister she, like hundreds of others, lives out her days, happy in the consciousness

that she is discharging her lofty mission. Can we despair of our countrymen while such strenuous efforts for their good are being made? Can we brand the age altogether as selfish and dead to duty?

Progress in the arts and sciences is imperative, and will go on. We may be sure of that. It may be indubitable that those reforms from which so much has been expected have often, when carried into practice, left things as miserable as ever. In spite of disappointment and failure man must advance. An evil pointed out must be resolutely attacked; social disabilities must be swept away, and the most complete equality, compatible with the continuance of society on a sound basis, must be the order of the day. As in science the goal of the discoverer to-day is his starting-point to-morrow, so the evils which the social reformer finds he must toil to remove, though admitting that human nature is incapable of absolute perfection. Every time we are told of evils that weigh down great classes the hour of inaction is past, the moment of activity come. I know not whether man's greatest happiness may not be intended by the beneficent Father of all to consist in trying to improve the condition of his less-favoured fellows; and if my surmise is well grounded, what signifies it that, as an able living writer has despondingly said, many of those schemes from which he and others expected so much, such as the Reform Bills of 1832 and 1868, have accomplished little for the regeneration and elevation of the working classes. The striving to do good must bring happiness, and in the path of duty true joy is always found. What social reformers and philanthropists have from time to time said of the horrors amidst which many of the working classes exist must compel us to put forth redoubled efforts, and force us, for example, to remove fever nests and filthy hovels, although their miserable inhabitants are not conscious of their degradation. We have a sacred trust, and we dare not shrink from it. As soon as we know how, we are bound to check preventible disease, and to make it possible for men to live out their days in health and plenty, though possibly the sum of human happiness and contentment may seem to be little increased thereby. It is our duty to inculcate the highest tone of honour, and the purest form of religion, and the All Wise will not exonerate us if we fail in doing all we can.

The aggregation of myriads in great cities, the squalor of their homes, the hopelessness of their surroundings, the misery of never seeing the health-giving country in its glorious solitudes, these are evils we are called upon to remedy as much as circumstances will admit. But the social reformer alone can do little. He must labour in conjunction with the minister of the Gospel, the instructor of the young, the political economist, and the sanitary reformer. The Act of Parliament making education compulsory must be supplemented by the teachings of those whose glorious privilege it is to remind the world that after this life comes another, of which the present is only a part. The Bill giving town councils power to remove squalid courts and filthy alleys must be assisted in its operation by wise guides telling the poor how to keep new and better houses comfortable and pure. The warnings of medical officers of health must be received by men who can understand and appreciate what is being attempted on their behalf. It is a narrow view of the social problems of our age to suppose that a few great reforms will make the masses and the dominant classes happy and prosperous. The great reforms of the past have not been sufficient, and those of the present and the future will be disappointing, unless by their continued action on the understandings and hearts of all they raise the nation, and give all, from the lowest to the highest, loftier conceptions of life, higher aims, and greater peace of mind. Let us not fancy that public health acts, or education bills, or coöperation, or permissive bills, or any other scheme alone or altogether, will suffice. The problems of life are terribly difficult, and for their elucidation ripe knowledge and immense labour are needed. There is something inexpressibly solemn and affecting in the death scene of that stern though grand Calvinist—Mr. Leyburn—as described by Mrs. Humphry Ward. "Catherine," exclaimed the dying clergyman, "life is harder, the narrow way narrower than ever. I die," and memory caught still the piteous, long-drawn breath by which the voice was broken, "in much, much perplexity about many things. You have a clear mind, an iron will. Strengthen the others. Bring them safe to the day of account." "Yes," she answered, "father, with God's help, oh! with God's help." Again, continues Mrs. Humphry Ward in the same remarkable, though unsatisfactory and to many most painful work, "The Ritualist may glory in the discomfiture of an Erastian bishop; what Christian dare parade ten years of love to God and man," but may I not add, who but the Christian would devote himself to the ungrudging service of mankind in the Master's spirit?

If I read aright the utterances of profound thinkers, I believe that, with few exceptions, they, in the main, endorse the view I have in this and in many other articles taken, and I find that many distinguished friends of mine repeat in their private letters what in public they often state—that the very abundance of the labours of the past has bequeathed to us a still larger debt to discharge. We are the heirs of the knowledge of the past, and we know better than our predecessors the magnitude of the task before us; with more to do there is a still more urgent call to lose no time in beginning the work—its completion our descendants must take in hand and try to accomplish. No, the improvement of the moral and social condition of our countrymen is not easy: it requires the coöperation of philanthropists and reformers, and among them the leaders of sanitary science occupy a leading position; it demands the unselfish, loving, ungrudging coöperation of an enlightened clergy, emancipated from the detestable, worn-out rags of prejudice and narrowness. The field is vast enough to enlist all the workers, and to fill all the best thoughts of the age; but one class cannot do without another, and unless all pull together, the unaided exertions of one body of reformers will accomplish little. Infidelity is growing; population is increasing by leaps and bounds, and the disintegration of classes, especially in towns, is going on apace. Never was there more to do; never was it better known how to work; and, alas! that I should have to say it, perhaps never were unchristian class distinctions pushed to more unjustifiable extremes; and never were religious conflicts more formidable obstacles. S. U. M.

URN-BURIAL.

By W. Armstrong Willis, Monmouth.

A large literature, ancient and modern, exists on the subject of urn-burial; the older writers discoursed learnedly on it, and used it as a peg on which to hang evidences of their recondite learning, illustrated by apt quotations from obscure authors. With the moderns,

under the aspect of cremation, it has been treated with all the lights that science and sanitation can throw on it. To a civilised community, dealing with its dead is of the first importance; that illustrious scientific men amongst us are dissatisfied with existing methods is familiar to most, and proves the matter worthy of thoughtful interest. It must be agreed that on no other subject have such masses of painful and revolting information been so freely given to the world, as in the many newspaper controversies on the question of burial which have occurred in the last few years. These open discussions in a measure did good; popular favour has been turned against the abominations of brick graves and leaden coffins, and much of the unmeaning mummery of the undertaker can now be dispensed with by more tasteful minds, without unduly scandalising the conventionalities. The subject of burial quite recently appears before us again in the Returns, issued by the Government, having reference to interments in London cemeteries, published in answer to a request of the Burial Reform Association, a society which advocates what is called "earth to earth" burial. These returns show a great over-crowding of the dead in the midst of a large living population. In the Brompton cemetery, with an ever-growing population around it, in an area of less than twenty-nine acres, have been buried since June 18th, 1840, 155,064 bodies; in the Tower Hamlets cemetery, in an area of about seventeen acres, have been buried since 1841, 247,000. The common interment system, called in Scotland pit-burial, in which a very considerable number are buried in the same grave or trench, is observed in every London cemetery, and notably in the Brompton one, where 100,000 are buried on this system. The total number buried in the suburbs of London during the last half century, for the most part in durable coffins in unsuitable graves, is considerably upwards of a million and a quarter. The annual death-register of Great Britain is close on 700,000; allowing ten years for the complete resolution of the body, under present conditions of burial, gives nearly seven millions of dead bodies in various stages of decomposition, emitting noxious exhalations to the atmosphere, and contaminating the subterranean water-reservoirs. Figures are often uninteresting, but these statistics of our own "Nations of the Dead" speak for themselves; their bare numbering strengthens the position of the cremationist as one thinks of this great multitude, larger than any fabled army of ancient history, festering under a few feet, more or less, of earth. Probably the population of Great Britain will never be as dense as that of districts in China, a country which well exemplifies the serious disadvantages of long-continued earth-burial. In Mr. W. Robinson's recent book, "Cremation and Urn-burial," a forcible and practical work, abounding at the same time in varied and curious information (of which the writer of this article has freely availed himself), there is to be found a long account of burial in the Celestial Empire. In the country, near Shanghai, the land is one vast grave-yard. Everywhere, almost in every field, are graves in mounds of earth, or coffins standing exposed on four legs. These coffins remain for some time exposed, and are afterwards buried or set on the ground, and a large mound piled over them from two feet to five feet high, and seven feet through. All round the walls of Ichang is this graveyard, notwithstanding that the land is agriculturally valuable and there is a dense population. There are always dozens of dogs in these cemeteries, and they may be seen devouring the recently buried bodies—a horrible sight, but familiar to travellers in various parts of China. Outside the town of Chin-Kiang, on the river Yangtse, are low hills of considerable extent, covered with the graves of men who fell in the Taiping Rebellion; each is marked by a little mound of earth, covered with rough grass, no cultivation whatever being attempted. The graves of the Mandarins or high officials take up more space. Near Nangkin are the Ming tombs, where monster stone figures are set up on each side of the road leading to them; smaller effigies of men, horses, lions, and elephants, guard the approaches to the tombs of old rulers and warriors; by these an enormous extent of valuable land is kept out of cultivation and becomes the home of pheasants and hog-deer. Such graveyards help to make China the sad, unpleasant country it is; the insufficient modes of burial render great tracts of land unavailable for ornamental or useful purposes, and offer a variety of disgusting sights to the living. It is a relief to turn from China to Japan; here the dead are burned, and the land saved for the pleasure and profit of the living, and the small cemeteries are beautiful. A charming spot is generally chosen; sometimes in a lovely valley, shaded by enormous pines, or sometimes little lawns or ledges on the hillsides. Each family using the cemetery has a small plot of ground, in which the ashes are buried. There is, of course, a great saving of land compared with the Chinese, or even with our own method. Over the buried ashes is a stone, often beautifully cut, containing the name of the family or individual, while vases for flowers and lamps are to be seen near the graves in these beautiful cemeteries. The evergreen bushes planted in these spots are the ilicium religiosum, the tea-shrub, camellias and euryia japonica; specimens of the maidenhair tree or ghinko (Salisburia) may be also seen, with noble umbrella pines and other rare trees. Such are the surroundings which the most æsthetically-minded people of the world choose and artistically dispose around the ashes of their dead. We may well ponder if in this matter Europeans might not with advantage imitate the practice of the tasteful and simple Japanese. It is doubtful if anything can be more distressing than the dreary stone-yard which does duty as an average English cemetery. Monuments of unmeaning design, weighty iron railings enclosing patches of white marble pebbles (crushed to resemble lumps of sugar), tributes of wreaths of painted tin flowers, and other abominations, make it the dreariest place imaginable. On the Continent, where we fondly believe there is more recognition of the craving for the beautiful, things are still worse. Père la Chase can show nothing better than acres of mean memorial stones and chapels, the whole plentifully strewn with wreaths of blackened, decaying "immortelles." The treatment, in Parisian cemeteries, of the portion reserved for those who have not obtained a concession in perpetuity for their dead, is extremely painful. After a certain number of years the ground is cleared out, dug up, and used again. The wooden crosses, little head-stones, and countless ornaments are carted away or thrown together in great heaps; the crosses and consumable parts being generally sent to the hospitals as fuel. The headstones from such a clearance (when not claimed) go to make the drainage of a road, or are used for some similar purpose. In England, also, this destruction is not unknown, mural monuments inside ecclesiastical buildings often faring as badly as memorial head-stones in the churchyard. As every clergyman is, *ex-officio*, possessed of taste and competent to direct and set on foot that strange process now known as a "restora-

tion," it follows that his cultured eye dislikes the mixed styles of the Tudor, Jacobean, and Georgian monuments in his chancel; they are to him barbarous relics, and as such to be hustled away to the belfry and other obscure places, and the church left in the grim bareness of its newly-scraped, blank walls. Some people are so constituted as to regret deeply this destruction of the memorials of the dead, and the moving of their remains from the original position in which they were first laid. It is curious that an age which glories in its utilitarianism has not been more ready to adopt urn-burial; to the practically minded it cumbers the ground less, and has sanitary and economic advantages, while the more sentimental could rejoice in the perpetuation of the memories of their friends in beautiful and lasting receptacles for their ashes. The practice of cremation would, for the survivors, rob death of some of its ghastliest terrors, and they are, in these matters, to be chiefly considered. An old divine beautifully says of the dead, "To them it is all one, whether they be carried forth upon a chariot or a wooden bier, whether they rot in the air or in the earth, whether they be devoured by fishes or by worms, by birds or by sepulchral dogs, by water or by fire, or by delay. . . . There is nothing in this but opinion and the decency of fame to be observed."

By the adoption of urn-burial, all that concerns the artistic side of the cemetery would be changed. One of the larger burial grounds, now closed, perforce, in a time less than an ordinary life, would suffice for the burial of many ages, under the altered conditions. The present tendency to neglect and desecration would be counteracted by the fact that each living generation would be as much interested in the care and keeping of the cemetery as those that had gone before. This gives at once what is an absolute necessity from the artistic and sentimental point of view—absolute permanency for the resting-place of the dead. That charming author, Dr. Oliver Wendell Holmes, was moved to indignation by the removing and alteration of monuments in America, and wrote as follows: "The most accursed act of vandalism ever committed within my knowledge was the uprooting of the ancient grave-stones in three at least of our burial-grounds, and one at least just outside the City, and planting them in rows to suit the taste for symmetry of the perpetrators. The stones have been shuffled about like chessmen, and nothing short of the Day of Judgment will tell whose dust lies beneath any of those records, meant by affection to mark one small spot as sacred to some cherished memory. Shame! Shame! Shame! that is all I can say. It was on public thoroughfares, under the eye of authority, that this infamy was enacted. I should like to see the gravestones which have been removed or disturbed, and the ground levelled, leaving the flat tombstones. Epitaphs were never famous for truth, but the old reproach of 'Here lies' never had such a wholesale illustration as in these outraged burial-places, where the stone does lie above, and the bones do not lie beneath." This passage, so fiery for the most genial of writers, might be carefully studied by the philanthropists who enjoy turning London churchyards into playgrounds. If permanency were obtained, the knowledge that our cemeteries would be sacred for all time and jealously guarded, would influence those who would find in them a new field of art-work. The great revival of taste has caused the most careful attention to be bestowed upon the designs of the merest trifling details of our houses and life; this would be extended to the urns and rest-gardens of our dead. The gruesome meretriciousness and temporary handsomeness of the varnished wooden coffin, and its plated fittings, are not pleasing objects for the eye to dwell on; smothered with flowers it is just passable in its ugliness. But who can walk through any museum or collection without being struck with the beauty of the ancient urns? Without mentioning in detail the noble urns of the Vatican and Borbonico Museums, there are lovely specimens in our British Museum, of all shapes, simple and intricate, plain and decorated, of marble and porphyry, of terra-cotta and of glass. It was a Grecian urn which inspired Keates with the well-known poem, opening, "A thing of beauty is a joy for ever." The urn of the pauper might be as perfect in its curves and proportions as that of the greatest prince, although in material and decorations they should differ. In building tombs and columbaria for the reception of urns, the wealthy patrons of art could encourage the creation of magnificent edifices. For people of purer and simpler taste, a plain tomb placed among groups of rarest trees, forming a delicious feature in the landscape of the country, the park, or the garden, might make the home of the ashes of the pioneer in far-off lands, or of the soldier who had fallen in the Tropics, which could be brought back without painful effort to rest among their kindred. Such places would be a fitting resort for the living, for meditation, aspiration, and prayer. One such spot in the midst of a busy town would form the text of a continuous sermon, such as no city grave-yard can preach. In our wealthy communities all that is noble in sculpture, painting, and mosaic would come naturally to the ornament of such buildings; cloisters might be used, and portions of our cathedrals and churches adapted for the reception of urns. Around the new buildings, if possible, there should be lawns and groves, and the best loved and most illustrious should be commemorated in groups or single specimens of fine trees. Nothing trifling, nothing frivolous, or incongruous, should be admitted, and these places would be not only resting places for the dead, but would grant a measure of peace to the living. Never again would the prying antiquary or fanatic revolutionist be able to desecrate the actual bodies of the dead.

There exists rather a rare *brochure* detailing the violation of the royal sepulchres at Saint Denis, during the French Revolution of 1793. The body-snatchers set to work in the October of that year, and their labours occupied the whole month. The first corpse found was that of the once loved Henri IV. (Henri de Navarre). As a king who had been popular with his humbler subjects, his corpse was specially well-treated by the crowd, who propped him up in his shroud against a wall. One of the Republican Guards cut off the king's grey up-turned moustache, and placed it on his own lip; another removed the beard, to keep or sell as a relic. Having paid these marks of attention, the body was thrown into a huge pit, filled with quicklime, into which successively his ancestors and descendants followed him. Next day the corpse of Henri IV.'s wife, Marie de Medicis, and that of his grandson, Louis XIV. were added to his. The body of the "Sun King" (as Louis XIV.'s courtiers loved to call him) was "black as ink." What a contrast must this poor blackened old skull have been, to the majestic periwigged head which still looks down patronizingly from the canvases of Le Brun and Rigaud in the French palaces. So this noisome work went on methodically, till all the Bourbons had been disentombed; then the lines of Valois and Capet came in turn, until the almost legendary remains of Dagobert

appeared. A pause was made before opening the coffin nearest the door of the royal vault, which contained, according to custom, the king who had died last. Louis XV., "*le bien aimé*," had perished of a most terrible disease, and it was rumoured that the undertaker who tumbled him into his coffin had perished by contagion. It was only therefore on the edge of the pit that the revolutionists removed the body from its coffin and hastily rolled it in, but even with the precaution of discharging guns and burning powder, the air was horribly tainted, even to a distance. The whole story is sickening in its monotony, which is only relieved by the details of the more or less advanced states of decomposition of the poor royal remains. From this one learns that the horrors of decay last after two or three centuries of burial, and a body thus coffined being removed "a black fluid, emitting a noxious smell," will run from our last home, as was the case at Saint Denis at this ghastly unburying of great people in 1793. It is needless to quote accounts of the disinterments of the Cromwellian regicides for political purposes, or of the opening of the coffin of Charles I., at which George IV. assisted. Cremation would have rendered such scenes impossible, and left a pleasing blank in the darker pages of history. No better conclusion to an article on this subject can be found than a quotation from that quaint treatise on "Hydriotaphia, or Urn-burial," by the learned writer and physician Sir Thomas Browne. It may be incidentally remarked how well his words apply to that strange burning of the body of the poet Shelley, at Spezzia, by his friend Trelawney. The great writer in his concluding passages on Urn-Burial, says: "Life is a pure Flame, and we live by an invisible Sun within us. A small Fire sufficeth for life, great Flames seemed too little after death, while men vainly affected precious Pyres, and to burn like Sardanapalus. But the Wisdom of Funeral Laws found the folly of prodigal Blazes, and reduced undoing Fires unto the rule of sober obsequies, wherein few could be so mean as not to provide Wood, Pitch, a Mourner, and an Urn."

OXFORD: ITS COLLEGES AND HALLS.

By Alfred J. H. Crespi, of Wimborne.

The recent revival of the Oxford School of Physic and the increasing attention paid in that University to natural science are sure to lead to a considerable influx of undergraduates intending to join the medical profession, and no better training for a young man of means, and wishing to confine himself to good class large town practice, could be conceived. Whether, however, five or six years at Oriel, Christ Church, Merton or Balliol is the best preparation for a club doctor, is a totally different matter. The rich are few, the poor many, and most medical practitioners must look for a scanty living from patients, who think in pence rather than in shillings; and unless I am greatly mistaken, I believe that some members of the medical profession could be pointed out who have lost more than they have gained by a University course, and have had reason to regret that their heads were then filled with notions that did not accord with their surroundings in after life.

It is difficult for anyone, not a member of one of our two ancient Universities, to understand the friendship and brotherhood commonly subsisting among Oxford men. Wherever the various chances of life may lead the Oxonian, and whatever the scenes that may surround him, he looks back with an affection and veneration incomprehensible to others, to the time-honoured colleges and halls in which he passed several happy years. Nothing precisely similar obtains in the learned professions at large. The medical student rarely looks back to his hospital with more than passing interest, and does not always even care to revisit it; the barrister and the dissenting minister do not feel their hearts stir within them as they recall the scenes of their early professional studies; and army officers are, perhaps, the only large professional class which proudly remembers its early associations; they never forget their old companions in arms—never tire of talking about their old regiment, just because a regimental mess has much in common with life in hall.

The Oxonian always clings to his dearly-loved college. Again and again, when opportunity permits, he retraces his steps to the familiar quadrangle, and lives again for a few moments in the far-off time when he was an undergraduate. The hold Oxford has on the minds of its alumni is extraordinary, and is one of its most precious fruits. It is the best result of the inimitable system of education which makes of the members of the respective societies one great family, with interests in common, and which regards the prosperity of one of its members as the glory of all.

Sir George Trevelyan in the following passage has given Lord Macaulay's views on the matter: "He keenly appreciated a society which cherishes all that is genuine, and is only too outspoken in its abhorrence of pretension and display: a society in which a man lives with those whom he likes, and with those only; choosing his comrades for their own sake, and so indifferent to the external distinctions of wealth and position, that no one who has entered fully into the spirit of college life can ever unlearn its priceless lesson of manliness and simplicity. Of all his places of sojourn during his joyous and shining pilgrimage through the world, Trinity, and Trinity alone, had any share with his home in Macaulay's affection and loyalty. To the last he regarded it as an ancient Greek or a mediæval Italian felt towards his native city. As long as he had place and standing there, he never left it willingly, or returned to it without delight. The only step in his course, about the wisdom of which he sometimes expressed misgiving, was his preference of a London to a Cambridge life. The only dignity that in his later days he was known to covet was an honorary fellowship, which would have allowed him again to look through his window upon the college grass-plots, and to sleep within sound of the splashing of the fountain; again to breakfast on commons, and dine beneath the portraits of Newton and Bacon on the daïs of the hall; again to ramble by moonlight round Neville's cloister."

In my case my heart clings to Oxford. I recall with undiminished pleasure the courtesy and refinement of its more polished members. I still seem to listen to the graceful and stately eloquence of its profound and eminent preachers. I look back to its delightful life, unique in its character. Wherever I wend my steps, the hallowing and chastening influence exercised by some residence within its venerable walls, and in the atmosphere of its noble halls and colleges, remains fresh and imparts an interest and dignity to life, when anxiety and disappointment, and the duties of a profession for which I have no aptitude, and small liking, might press heavily on me.

The University of Oxford is an institution of extraordinary antiquity. Tradition ventures to claim for King Alfred in 871, the proud honour of laying the foundation

of that glorious and incomparable system of education of which Englishmen are so proud. Without going back to the great West Saxon King, traces can be discerned of educational institutions existing at Oxford many centuries ago. There is reason to believe that, for eight hundred years, classical learning has flourished on the banks of the Isis, and as long since as 1249, William of Durham, Archdeacon of that city, and rector of Wearmouth, bequeathed a sum of money to University College. It was not, however, till about 1270 that Walter de Merton, Lord High Chancellor of England and Bishop of Rochester, established the first collegiate institution, in the present acceptation of that peculiarly English term, at Oxford. The college he founded still keeps his name alive. From his day a long succession of colleges has been established. There are now twenty-five public colleges and halls, each forming a complete society, and training large members of the ablest and most promising young men of the nation, who perpetuate the glory, and diffuse the fame, refinement, and influence of Oxford wherever they go.

The colleges have not the power of examining for and granting degrees, which are only conferred by the University; the latter examines candidates through its deputies, who are eminent men impartially and carefully selected from the members of the colleges. The University, in its collective capacity, comprises all the members of the colleges and halls, as well as the unattached students: it regulates and carries on the general training and education of the undergraduates. But every college controls, to some extent, its own affairs, and it watches over the interests and conduct of its members. The University is governed by distinguished men, selected from the great body of graduates, but every society governs itself by its head, fellows, and tutors. Except in Dublin, no system remotely similar exists anywhere out of this country.

The fame of some colleges much surpasses that of others, and although every undergraduate must pass through the portal of the University public examinations before he receives a degree, and even unattached students sometimes take a "first class," one college may, and often does, as the reward of abler management, more distinguished tutors, or more liberal endowments, attract an exceptional number of talented young men, ten times as many as may enter another college in the same street. The prestige of a college tends to increase and perpetuate itself, and when at last the roll of its celebrities includes scores of the most famous names in the country's history, it may consider it no slight honour to admit any but the most promising young men from the public schools. In every branch of science, in every walk of literature and art, in every century, in every Parliament, Oxford names shine prominently. Oxford points with maternal pride to the glorious names of Friar Roger Bacon and Edmund Halley, the astronomers; she claims John Locke, the mental philosopher; Adam Smith, the political economist; Richard Hooker and Joseph Butler, the theologians; John Hampden, the patriot; and Shelley, Southey, and Chaucer, the poets. It was she who trained Sir Matthew Hale, the upright judge; Dr. Thomas Sydenham, the learned physician; and Lord Chancellor Clarendon, the historian. Edward Gibbon, James Anthony Froude, Edward Freeman, Addison, Keble, the Newmans, Samuel Wilberforce, and Reginald Heber, the Arnolds, Sydney Smith, and Thomas de Quincey, all had their minds formed at Oxford. From her halls went forth John Wycliffe, that sturdy and chivalrous champion of untrammelled and enlightened thought. From the same halls have also issued those bigoted upholders of regal tyranny and priestly intolerance and assumption, of whom Cardinal Wolsey and William Laud, Archbishop of Canterbury, are among the most illustrious. Oxford has always been proud of its famous bishops and divines, from the distant days of Cardinal Morton and the more recent times of Bishop Prideaux, to the present generation, when she points to Dr. Newman, Dean Stanley, Bishops Wilberforce and Temple, and Archbishops Whateley and Tait. Oxford is also proud of its accomplished statesmen, and claims, among the leading men of the day, Mr. Gladstone, Lord Sherbrooke, Lord Coleridge, Lord Salisbury, and Lord Selborne. High in authority among the bishops, deans, ministers of state, judges, and writers, of whom England is proud, are so many Oxford names that one is half forced to the conclusion that there is some mysterious connexion between English University life and subsequent fame. It is significant that the majority of Englishmen of preëminent ability and influence have belonged to Oxford or Cambridge. It is quite an exception to find writers and public men ranking so high among the notabilities of the age as John Stuart Mill, Dr. Carpenter, Charles Dickens, Joseph Chamberlain, and John Bright, who have not studied at one or the other.

A singular instance of the injustice of accusing Oxford of producing nothing but illiberal priests is that, although the great heads of the Ritualist party, Drs. Newman, Manning and Pusey, and John Keble, were trained at Oxford, the heads of the Broad Church, Frederick Denison Maurice, Thomas Arnold, Dr. Whateley and Benjamin Jowett, were also graduates of this university, though the first was educated at Cambridge.

The city is not less striking than its life, and one of Macaulay's letters to his sister Hannah gives a lively sketch of it. He says "I came through Oxford. It was as beautiful a day as the second day of our visit, and the High-street was in all its glory. But it made me quite sad to find myself there without you and Margaret. All my old Oxford associations are gone. Oxford, instead of being as it used to be, the magnificent old city of the nineteenth century—still preserving its antique character among the improvements of modern times, and exhibiting in the midst of upstart Birminghams and Manchesters the same aspect which it wore when Charles held his court at Christ Church and Rupert led his cavalry over Magdalene Bridge—is now to me only the place where I was so happy with my little sisters. But I was restored to mirth, and even to indecorous mirth, by what happened after we had left the fine old place behind us. There was a young fellow of about five-and-twenty, moustachioed and smartly dressed, in the coach with me. He was not absolutely uneducated; for he was reading a novel, "The Hungarian Brothers," the whole way. We rode as I told you through the High-street. The coach stopped to dine; and this youth stopped half an hour in the midst of that city of palaces. He looked about him with his mouth open, as he re-entered the coach, and all the while that we were driving away past the Radcliffe Library, the Great Court of All Souls, Exeter, Lincoln, Trinity, Balliol, and St. John's. When we were about a mile on the road he spoke the first words that I had heard him utter. 'That was a pretty town enough. Pray, sir, what is it called?' I could not answer him for laughing, but he seemed quite unconscious of his own absurdity."

As we approach Oxford by the Iffley-road, and cross the splendid bridge which spans the Cherwell, we enter a new

world, unlike all other phases of English life. On the right stands in solitary grandeur the lofty pile of Magdalen, with its majestic clock tower, magnificent chapel, splendidly decorated cloisters, and exquisite gardens. If we turn into the cloisters we are in the midst of mediæval England. How wonderfully beautiful is every object! how stately and imposing the ranges of colossal buildings and sombre rooms! As we pass through the cloisters, and reach the beautiful avenue of trees known as Addison's-walk, fancy takes us back long centuries in our history. All else in England is changed, or is fast changing. But in this busy, restless, nineteenth century, Magdalen College survives in its ancient loveliness, a relic of the earlier part of the Middle Age. It is elsewhere usually difficult to realise that our feet are actually resting upon the very soil once trodden by the great men of old. Here, as we slowly pass under the glorious network of trees, we *know* that Joseph Addison, and before him, John Hampden, delighted to wander and think. In the gardens and cloisters of Magdalen everything is tranquil and peaceful; the cares and anxieties of a trying professional career are forgotten, and one can calmly think for a brief season, oblivious of the noise, turmoil, and competition of daily life. If evening be approaching, we can come out of the gardens and walk through the cloisters to the noble chapel, and there listen to the solemn notes of the organ and the sweet voices of the singing men, blending harmoniously in the evensong, which for so many years has daily ascended to heaven from its sacred walls. Can anyone be surprised at the soothing influence which the quiet of Oxford exercises?

Reluctantly we leave Magdalen and its beautiful surroundings, and coming again into the High-street, walk in the direction of Carfax Church. Everything impresses us by its antiquity. In a few minutes we pass on the right the imposing pile of Queen's; and on the left, at the same moment, we see, towering into the sky, the majestic and sombre buildings of University, the oldest of the existing societies. In another minute we have on the right the graceful pinnacles and fair fabric of All Souls'; then, on the same side, there faces us in all its architectural splendour, the immense church and tapering spire of St. Mary the Virgin, better known as the "University Church." Its pulpit, for many generations, has, Sunday after Sunday, in term time, been filled by the foremost thinkers of their day. It is here that, in term, are preached the University sermons. To this church the members of the colleges flock in hundreds whenever some great preacher or distinguished leader of intellectual freedom fills the pulpit. To this ancient church come in stately procession the heads of houses, the doctors, proctors, masters, and professors. On every occasion of importance the faces of not a few great scholars are seen within its walls. St. Mary's is worthy of its proud position. For beauty and stateliness it would be difficult to find its equal. In size it is scarcely inferior to cathedrals of the second order, and closely resembles them. Among other objects of interest she points to her beautiful steeple, rising from the intersection of the transepts with the nave and choir to the height of several hundred feet. Reluctantly leaving St. Mary's, we turn in the direction of Broad-street. What a sight meets the eye! We are in a large square, lined on every side with some of the finest buildings in the land. Behind us is the University Church; to the right extend the long ranges of All Souls', and the quadrangle of Hertford College; on the left is the King's Hall and College of Brasenose; in the centre stands the vast dome of the Radcliffe Library, containing tens of thousands of precious volumes; along the far side, and directly in front, are arranged the enormous piles of buildings known all the world over as the Bodleian, that wonderful collection of hundreds of thousands of ancient and priceless works. We pass through the square and ascend the massive staircase of the Bodleian, and along its broad passages. It is difficult to believe that all the books in the world are not disposed on the shelves which meet the eye, look where we will. For acres the walls are covered with tomes and paintings. Half-bewildered, we retrace our steps, and issue into the open air. But the wonders of Oxford are very far from exhausted. Within a few yards of the Bodleian, indeed, in the same building, is the Divinity School, remarkable for its richly-decorated ceiling and air of grandeur, and memorable as the place where the Parliament of England used to meet. Near at hand is the Sheldonian Theatre, one of the finest halls in the land. In it the principal meetings of the University are held, and the annual commemoration is celebrated. Close, too, is the Ashmolean Museum, with its many curiosities. There we see King Henry the Eighth's chair and the famous sword sent him by the Pope. There, too, with deeper pleasure and more unalloyed interest, our eyes rest on the venerable and beautiful Alfred Jewel, a small gold ornament, which tradition permits us to believe belonged to that great monarch.

Leaving the museum, we continue in the direction of the park. On our right we pass another sombre college—Wadham; further on, on the same side, extends that stupendous modern pile—the Natural History Museum: within its walls the scientific instruction afforded by the University is given. In such a structure, so light, airy, and well arranged, arduous study almost becomes a pleasure. The scientific professors are a numerous and distinguished body, worthy of the renown of Oxford.

Directly facing the principal entrance of the museum is a fine range of new buildings, standing out clearly and sharply in the sunlight, to which extensive recent additions have been made; that is Keble, the youngest of all the societies. It was opened in June, 1870, and is intended to keep alive the memory of the Anglican Christianity of the gifted poet whose name it bears.

We return to the Ashmolean; and turning down a street to the left, reach the extensive quadrangles, gardens, and ancient chapel of New College, which might easily engage the attention for hours. Surrounding the gardens is a portion of the old city wall, as perfect as when first erected. To the left are one or two ancient churches, and the little quadrangle of St. Edmund's Hall. Leaving New College, we retrace our steps and go down Broad-street: to the left are the immense piles of Exeter, Lincoln, and Jesus; John Wesley was a fellow of the second: to the right the quadrangles and lovely gardens of Trinity, Balliol and St. John's are picturesquely grouped. In our progress we see the spot where Cranmer, Latimer, and Ridley perished; we also pass the house in which resides that most accomplished and amiable of men, Sir Henry Acland, the Regius Professor of Physic in the University. Leaving these glories behind, we come out into St. Giles's. On every side are imposing buildings and interesting churches; close to the right are the lovely gardens of St. John's among the most beautiful in Oxford; in front the Taylorian rears its huge bulk into the sky; at a greater distance—at the end of Beaumont-street, but not in sight where we

stand—are the gloomy buildings of Worcester, interesting from its extensive gardens and ancient chapel.

Without stopping to examine or to admire, we turn to the left, and in a few minutes, cross High-street, close to Carfax, and, within two hundred yards, approach two more colleges: the smaller, to the right is Pembroke, Samuel Johnson's alma mater: the one to the left, and by far the largest in the city, is Christ Church. We enter the latter, passing under the massive tower, which holds the largest bell in Oxford. We are in an immense quadrangle, with interminable ranges of rooms extending in all directions, and, recalling the many celebrities of this the largest and most splendid of the colleges, we feel that we are treading on holy ground. Many remarkable names are on the college rolls, and indeed, several distinguished men have till recently actually resided within its precincts: two great names immediately occur to the mind—those of Canon Pusey and Canon Liddon, among the most eminent and learned of modern Oxford professors. A little to the left are seen another enormous quadrangle and the splendid college library. On the right, nearly facing us, are the cloisters, and through them we reach the Cathedral. A little farther off, we approach the new ranges of college buildings and the Broad-walk, near which flows that noble and beautiful river, the Isis, as the Thames is called in this part of Oxford. We pass along under the ancient trees, and make our way out near Oriel, the wonderful college which has exercised such subtle and far-reaching influence on English religious thought during the present century. Close at hand is Merton, with its handsome church and long roll of worthies: Close, too, is Corpus Christi, distinguished for the learning rather than the number of its members. Finally, passing along the street in which these colleges stand, we, in a few minutes, re-enter the High-street near Magdalen College, the spot from which we commenced our circuit.

The description I have attempted is far from complete, and is little more than an enumeration of the principal beauties and glories of the colleges, each of which has a long and often chequered history of its own. But I have tried to give my readers some conception of the scale on which Oxford is built, some idea of its principal objects of interest, which may serve to stimulate his curiosity, and tempt him to explore for himself. The search would be fruitful, and would repay the little trouble and expense involved. I love Oxford, and should be delighted to return and spend much of my time within its walls. I always was impressed by its culture and refinement; I am proud of its preachers, thinkers, writers and statesmen; and I am thankful that it fell to my lot to pass a certain portion of my life within its influence.

If Oxford is true to herself, and moves with the times; if she stands up as the fearless champion of freedom of thought, and the leader in matters religious, political, and scientific, her prosperity and influence are assured for centuries. She might again number among her sons many a Wycliffe, many a Hampden, many an Adam Smith, who in religion, politics, and science would be pioneers of progress. If, however, instead of advancing with the times, and tempering with her culture, refinement, and learning the enterprise, research, and democracy of the day, she holds back—still worse, if she tries to check progress and strangle thought—her influence will wane, and her long and glorious career will come to an ignominious end, or she will pass away weighed down with bigotry, and an object of neglect and contempt to the whole thinking world.

THE DOMESTIC WATER FILTER.

By G. F, Cadogan-Masterman, M.D.

Three methods are in common use for the purification of water, and, in the order of their excellence, they are: distillation, ebullition, and filtration.

The first is largely used on shipboard, and in other places where salt or brackish water is alone obtainable; and also, for the ultimate sterilizing of an already fairly pure water, either for scientific purposes, or as a beverage of exceptional purity, such as is sold in New York under the name of "Hygeia Water," and is distilled from that of the Croton aqueduct. The result is a perfectly wholesome drinking water, but "flat" and unpalatable from the absence of air and carbonic acid, and it has been shown that any attempt to remedy this defect by artificial aëration will probably lead to the introduction of the germs it was the special object of the distillers to get rid of; and the water has the singularity—for obvious reasons—of containing more free ammonia than that from which it was derived, which, if its source were not known, might lead an unwary analyst to believe that he was dealing with a specimen dangerously contaminated.

Water which has been subjected to tolerably long boiling is almost equally wholesome, and, if it were previously hard from the presence of bi-carbonate of calcium, would be considerably softened thereby. Any free ammonia would be driven off, and every form of animal and vegetable life be destroyed or rendered inert. But it has, again, the disadvantage of a mawkish taste, which may, however, be covered by using it in the familiar form of toast-and-water, or by the addition of a little syrup of lemon or lime-juice.

The greater part of the water supplied for public use is derived from sources which necessitate filtration on a large scale before delivery, and, as an additional precaution, this is often repeated at home; and it is the domestic water filter I desire to shortly examine and comment upon.

The oldest, and still as far as my observation goes, most generally used, is the familiar stoneware cylinder, of many pretended patents, but one plan: a straining sponge with a sham filter-bed beneath it. A few years since I had the curiosity, and indeed, necessity, to take one from a well-known maker to pieces. On lifting the cover there was seen, about six inches below, a partition with a perforated cup in the centre, filled with a tightly compressed sponge in an advanced stage of decomposition, dark, slimy and evil-smelling. I threw this away, and then, with a narrow chisel and hammer, chipped off the cement and lifted the partition itself. I found beneath, a bed of sand, small pebbles and coarsely broken charcoal, also, some red worms and a gelatinous mass of confervoid and animal matter, which gave off a smell I should be sorry to characterise by too strong a word, and which, after reserving a portion for the microscope, was gladly thrown on the compost heap. Below this was another partition, pierced with fine holes, and then the reservoir for the purified (!) water.

Now it must not be imagined that I found this delectable arrangement abandoned in some dusty shed, or that it was an old one. No, it had been purchased but a year or so before, and had been in constant use up to the day when I disembowelled it, and by a family of scrupulously nice and refined people, who had invoked my aid because they had all been out of health for some time in an indefinite way.

I should add that they were Nephalists, and regarded the filter with most trustful confidence. To avoid distressing them too much I did not tell of all I had found, but advised them in future to use their very excellent well-water exactly as nature supplied it, and with the best results.

I was greatly taken myself with the very neat carbon filters fitted in a glass vase, and for some time one stood on my my dinner waggon for daily use, until some chance reference to the wonderful purifying powers of charcoal, by a visitor at luncheon, led me to explain that in this case it acted simply as a strainer, and I was going to inconsiderately add, as a very perfect one, when a little green discolouration on the inner surface of the receiver caught my eye, and led to the intervention of the microscope, with the discovery—which a little consideration had prepared me for—that, as regarded cell growth, the water above the carbon cylinder was considerably purer than that which had passed through it! and I rather regretted the investment of 7*s.* 6*d.* in an apparatus, which, after two or three vicissitudes, disappeared in the lumber room. From that day I drank water unfiltered and with a normal amount of microbes, and am certainly none the worse for them.

Nearly three years ago I was looking through my monthly bundle of foreign medical papers, and in an Italian journal found a translation from the Russian *Vratch* of an article by Dr. J. Viltchür on this very subject. He had been examining experimentally a number of filters—our old friend the cylinder with the fœtid sponge was passed by with contemptuous disgust—with carbon blocks, silica and carbon, spongy iron, asbestos, and so on; and he found them all more or less imperfect strainers, purely mechanical; when quite new germ traps as well, but after a week's use strainers and germ nurseries—that is, a water containing a known proportion of a given bacillus had that proportion enormously increased by the so-called filter purification. When the carbon block is quite new and charged with air, it acts in the well-known way on organic matter, but after a day or two's soaking it is chemically perfectly inert, and in its cavernous depths and sinuous passages myriads of organisms are detained in darkness, at a favourable temperature and with passing food enough; and so they grow and multiply when the vase is empty, and are washed down when it is refilled, and the last stage of that water is very much worse than the first. He found that he must rebake the blocks every other day to make them of any use beyond that of tolerably fine sieves.

In the *Medical News* (Philadelphia, April 20-27) there is an elaborate paper by Dr. Charles Currier, of New York, on "The Efficacy of Filters, and Other Means Employed to Purify Drinking Water," in which he gives full details of the results of a long series of experiments conducted with great exactness on nearly every form of filter popularly and scientifically used. One is very common in the United States, which I have not seen: the Spiggot filter, a short cylinder of brass, which screws on to the tap, and is filled with fine sand retained by a perforated diaphragm at each end. It is generally regarded with much confidence, but is really absurdly useless. Dr. Curries found that the water passed just as fast from a given tap whether the cylinder were attached or not, and the idea of any filtration being effected under such conditions is preposterous. He found, as Dr. Viltchür had previously done, that every selective form of filter was only of temporary value in that respect; that, whatever the material might be, after a period of use varying from a few hours to three days, they excluded all gross impurities, but had no chemical action whatever upon the water; whilst, as for microbes, these either passed unchanged or—and this was most generally the case—they were increased enormously in number by cultivation within the pores of the filtering media.

Besides the ordinary forms, he experimented with Pasteur's cylinders of re-baked biscuit porcelain. The texture of these is so fine, and their continuity so perfect, that it might have been expected that they would have been free from every defect except slowness in action. It was found, however, that they failed as signally as the rest. At first not a bacillus passed, then a few was seen, and within two to five days they appeared in swarms in every cubic centimetre; whilst as the water passed only drop by drop, even under considerable pressure, the use of these expensive cylinders as practical filters was clearly out of the question.

We must not, of course, expect too much from any mechanical arrangement; and a filter which readily separates all foreign matters visible to the unaided eye, and leaves the water clear and bright, may be regarded, and with truth, as an appliance of some value; and so, if we stop there, well and good. We may be thankful, when muddy water only is at hand, that we have a means so simple for making it much less repulsive, and, to some extent, much less unwholesome. The fraud and deception come in when manufacturers sell filters which they warrant will not only strain but absolutely purify water—will render one polluted by sewage, for instance, safe and salutary as a beverage. This can only be done under certain exceptional circumstances, and for a very short time: a carbon block which is re-burnt or renewed every day can do it, but for that day only. If unchanged, it begins to fail on the second day, fails utterly on the third, and makes the water microbially worse than it was before filtration, and that, in an increasing degree, the longer it remains in use. And the dishonesty in selling a filter guaranteed to do what it is perfectly clear it cannot do, is made the worse by the false security it inspires in users who have not yet got over the unreasoning and blind faith which believes that whatever is printed must be true, and unquestionably true if two or three pseudo-scientific testimonials, from men who make a business of writing them, be appended. In the newspapers, in the advertisement sheets of medical and science journals, we constantly see statements in reference to filters, ludicrously untrue in fact, and of which it is hard to say, as of so many other trade announcements, which is the more extraordinary—the mendacity of the sellers or the credulity of the buyers.

The best of all filters, the simplest and cheapest, is a cone of unsized paper supported in a glass funnel. It involves a little trouble in using, but its economy—a hundred discs a foot in diameter can be bought for a shilling—compensates for that. And with these carbon can really be efficiently used as an absorbent and indirect oxidizer. Several weeks' supply can be re-burned, powdered, and preserved in full activity in a stoppered bottle, and a teaspoonful or so added to each new cone. The paper should be changed every, or at least every second, day, and the funnel should have a metal cover, and be washed frequently. It cannot exclude microbes, but it will certainly not lead to their multiplication. Half a gallon of water a day, enough for the drinking purposes of a tolerably-large family, could be prepared in this way by a filter of the size I have mentioned, and will come out bright and sparkling in the vase it is received in.

For cooking purposes the ordinary filtered water supplied by the companies is pure enough, the boiling which the act of cooking necessarily involves destroys the lethal activity of all organic matter contained in it; and there is no danger in using water—to take an extreme case—having the *materies morbi* even of enteric or scarlet fever mixed with it, if that water be thoroughly boiled for an hour or so, as it would be in the ordinary culinary operations of the kitchen. It is when such polluted water is used cold for the adulteration of milk, or, as has happened more than once, for simply washing the vessels it is collected or carried in, that danger or death ensues.

THERAPEUTICAL NOTES.

FROM OUR BERLIN CORRESPONDENT.

On the Use of Carbolic Acid—Eczema and Carbolic Acid—The Treatment of Erysipelas—The Therapeutic Effect of Codein—A New Dusting Powder—The Antiputrid Action of Fluoric Acid.

THE campaign against carbolic acid is now in full swing in Germany, as the number of carbolic acid poisoning cases is growing with such alarming rapidity that the question of Governmental interference is seriously ventilated. That carbolic acid should be obtainable from the chemist only on presentation of a doctor's prescription is one of the first measures which have been proposed. Professor Billroth, of Vienna, addresses himself to the public of Austria and Germany in warning against the use of carbolic acid, which is such a dangerous drug in the hands of laic people: not only is its internal use followed by most disastrous consequences, but even applied locally it may do great harm, as is proved by the frequent occurrence of carbol eczema. Any practitioner who has the opportunity to deal with these eczemas knows how difficult it often is to effect a complete cure. Dr. George Meger, of Berlin, publishes in the *Berlin Klinische Wochenschrift* a case of carbol eczema in a young man, who, during a stay in the country, got a contused wound of the third phalanx of the little finger. A surgeon stitched the wound. When seen by the author a few days afterwards he washed the wound out with 2% carbolic acid, dusted iodoform over it, and dressed it antiseptically. After a few days the skin surrounding the wound was found eczematous. Boracic acid vaseline was applied, which, however, did not stop the spreading of the eczema over three fingers and part of the volar and dorsal side of the hand. The author, on the advice of Professor Glulk, now applied lanolin, to which a little cocaine was added to stop itching. This treatment was followed by the most beneficial results; whilst a four weeks' course of application of boracic ointment had not advanced matters in any way, the effect of lanolin was already noticeable on the following day, as discharge and itching were considerably less. Four days afterwards the wound edges were formed by new epiderm, small patches of which were also visible within the wound; eight days after application of lanolin the whole large granulating surface was healed nearly completely. It must be said that the treatment with lanolin was combined with the internal administration of liquor arsenicalis Fowleri, but this remedy was discontinued after three days, and he attributes the excellent curative effect to lanolin only. The author therefore strongly recommends further experiments with lanolin dressing—pure, or combined with cocain—in all similar cases, but especially in fresh scalds and burns, where desquamation of the epidermic layer forms a prominent symptom. Lanolin will in such cases very appropriately substitute the old-fashioned mixture of lime water and linseed oil. In surgical chests, dressing cases, and ambulance conveyances, lanolin ought to find a permanent place, being the simplest and most convenient application in all cases of wounds, burns, etc.

When in Meyer's case of eczema the discontinuance of carbolic acid became urgent, he began to wash out the wound with an infusion of camomile, which, of course, had only a cleansing effect, but did not disinfect the wound. The latter, however, was unnecessary, because with lanolin aseptic healing was guaranteed, as Gottstein's researches have proved that lanolin is perfectly aseptic.

The favourable influence of salol in burns, communicated by Tato and Cabatelli, has probably also to be explained by the action of lanolin, with which the authors combined salol as a three per cent. ointment. The addition of salol or ichthyol to lanolin he thinks unnecessary for the said purposes.

Dr. Koch treated numerous cases of erysipelas with the following ointment:

Creolin	ʒ i.
Iodoform.....	ʒ iii.
Lanolin	℥ i.

This ointment is spread as an even smooth layer over the affected skin and its surrounding, on an area of at least two to three inches to the outside of the inflamed parts. The whole is covered by a piece of mackintosh. Dr. Koch selected creolin in the above prescription, because he thought that it was possessed of first-class disinfectant properties, without sharing the dangerous after-effects of carbolic acid. Iodine, which is derived from the decomposition of iodoform, stimulates absorption of inflammatory products. Lanolin has been chosen because it penetrates the skin best of all ointment bases.

The *Therapeutische Monatshefte* contains an article by Dr. Freund, of Strasburg, on the use of codein in diseases of women. The author was induced through the publications of Lauder-Brunton to try codein in gynæcological practice, and although not confirming everything what Lauder Brunton has stated, he nevertheless obtained favourable results. He gave it in abdominal pain produced by uterine and allied complaints, with very marked and rapid effect, especially if the pains started from the ovaries. The usual dose was followed—namely, half a grain three times a day in pills. In several cases the use of the drug was continued for months without any ill-effects arising.

Dr. Kiezer publishes an interesting paper on the use of salol as a dusting powder. He applied it in the following combination:

Salol	ʒ i.
Amylum powder	℥ i.

A varicose ulcer, in which all kinds of treatment had invariably been tried, was nearly completly cicatrised six weeks after the first application of salol. Six other cases of ulcerated leg were treated with the salol dusting powder; in all of them except one the success was equally marked, as in the first case. Excellent services were also rendered by the dusting powder in cases of sycosis, burns, scalds, wounds, defects of the skin, etc.

It is interesting to note what Dr. Gottbrecht publishes in the *Therapeutische Monatshefte* on the antiputrid action of fluoric acid. His researches were induced by communications on the use of fluoric acid in pulmonary consumption. He found that putrefaction of meat was prevented if it was kept in water which contained one per cent. of fluoric acid. Cultures of the bacilli of putrefaction were stopped in their growth if the nutrient gelatine contained from half to one per cent. of fluoric acid.

Reviews.

Abdominal Surgery. By J. Greig Smith, M.A., F.R.S.E. Second edition. London: Churchill. Bristol: Arrowsmith.

Works of this kind may be read now by the half dozen, scarcely yet by the whole dozen, but the volume before us, had it burst upon the world half a century ago, would have created an epoch in the history of surgery. Like many inventions and discoveries the art of abdominal surgery has crept on gradually; no individual operator can claim all its honour; but Mr. Greig Smith has contributed his full share to its advancement, both in detail and in principle; hence the present volume, as well as being a compendium of all that is known in every department of abdominal surgery, contains much matter which is not to be found elsewhere. A good example of the author's work is to be found in the thirteenth section, pages 625 to 676, on supra-pubic, or, as he says he prefers to call it "hypogastric" cystotomy, an operation which "is at present on the crest of the wave of popularity." Certain historical errors having been corrected, the author discusses with great lucidity the frozen sections of Garson and Petersen, and the comparative effect of vesical distension and the rectal pouch in elevating the peritoneal fold. He argues with apparent conclusiveness that general increase of the vesical dimensions, as by fluid injections, is the only thing which will lift that fold, but there is no reason whatever why rectal distension should increase the elevation, and if it does so at all it is only to an inappreciable extent. The one good thing which rectal distension will do, is push forward the posterior wall of the bladder, and bring it more within the operator's reach; but for every other purpose he is convinced that the contrivance is valueless, though not devoid of risk, except perhaps when a very thin rubber bag is used which will conform to the curves of the intestine without any tendency to burst the rectal wall. Very cogent are the author's reasons for distending both bladder and rectum by hydrostatic pressure, rather than by syringe or any form of hand-pressure. To force a given number of ounces of fluid into a bladder irrespective of its capacity or the tenacity of its walls, and then to imprison it there with an elastic cord compressing the urethra, sounds barbarously unscientific. One bladder may be full with ten ounces, while another is not full with fourteen, so that the amount of fluid injected, especially into a bladder which is diseased, is absolutely no criterion of how much it will safely bear; for the patient may strain violently, and the abdominal pressure be increased, or the bladder may suffer spasm and contract forcibly on its contents, to the great risk of vesical rupture. Wherefore, the author advocates the use of hydrostatic pressure through six feet of rubber tubing, connecting a catheter in the bladder, with a reservoir placed on a movable stand capable of ready elevation and depression, so that the fluid pressure in the bladder can be increased or diminished by merely moving the reservoir up and down. From a height of three feet the pressure exerted by water is about one pound to the square inch; the quantity of water requisite to produce that pressure in the bladder would be ruled by its distensibility, and would therefore be self-adjusting. Moreover, the pressure would be self-regulating; for should straining take place, or spasm of the bladder occur, there would be a refluent flow from the bladder out into the reservoir with so quick a relief of pressure as to make vesical rupture almost inconceivable. And when the spasm was over, the water would spontaneously run in again, and the distension be restored. This chapter of Mr. Greig Smith's may be read with interest by the most accomplished lithotomists, even by those whose experience and skill are such as to render his hints unnecessary to them.

Under the head of preparation of the patient, Mr. Greig Smith's considerateness for her feelings shews to especial advantage. The strong repugnance felt by some patients at the prospect of exposure during operation is known to those who have previous care of them, better perhaps than to the operating surgeon. When it comes to the point the patient will probably brace herself for the occasion; but it is the previous anticipation which causes the agony of natural, though foolish, modesty. The author's patients will be spared all this when they hear that, when he is the operator, they will be skilfully swathed from head to foot in warm blankets by careful nurses, and that there will be layers of warm cotton-wool over the chest under the flannel jacket, and rolls of warm wool around the limbs under the blankets; and that over all, completely covering the patient from chin to foot, and hanging down over the sides of the table, there will be a mackintosh sheet in which there has been cut a hole, "about seven inches long by four broad," directly over the area of operation, and that the margins of this hole are prepared like sticking plaster, so as to be closely adhered to the skin, isolating and leaving exposed only just so much of the abdominal walls as is necessary for operating. This passage (page 57) may be read with interest by operating surgeons, and communicated with advantage to nurses.

If the author's words are eloquent, so probably is his silence. We should like to have known his views on Apostoli's treatment of uterine fibroids by electrolysis; but his two allusions to it (pages 187 and 235) are short and cautious in the extreme. Unless his conversion be recent, like that of Dr. Keith, one would incline to the opinion that Mr. Greig Smith (speaking surgically) does not hold the Apostolic faith. And a subject which is at present so stormy may well be left alone. On another stormy matter, occasionally, but not advisedly called castration and spaying, the author speaks clearly (p. 169, *et seq.*) and with discretion. To lose what is lost by the operation in question may not be pleasant. Neither is it pleasant to lose an eye or a hand, yet all three losses are occasionally necessary. The surgeon who relieves his patient by removing a diseased eye may still do so without ruining his reputation; but if he similarly relieves a patient by removing her equally diseased "appendages," he may raise a storm of popular sentiment which will not improbably make shipwreck of him.

All the details of his art are given in one or other of the author's nearly 800 pages. As a sample of his care in details we may indicate that ligatures, knots, and sutures are described and figured whenever there is any chance of difficulty. At

page 138 the Staffordshire knot is engraved and described, and honourably designated "Lawson Tait's" after the name of its introducer. It is a sub-variety of the clove-hitch which is one of the most useful knots in existence. The intestinal suture given in figure 64 seems indistinguishable from Mr. Erichsen's second method of constricting a nævus [*Sc. and Art of Surg.*, ed. 5, vol. 1, p. 652] applied to the *interior* of an intestine. It is slow, difficult, and demands so much of the manipulative pawing and teazing which all enterorrhaphists deprecate, that the author's notice of it, though very courteous, is such that no one will think of using the suture while he can avail of the far better one shewn on the 473rd page.

If pages 2, 3, and 4 did not occur on the very threshold of the book where they are calculated to produce a bad first impression on the mind of the reader, they might be passed over in silence. It is necessary to say that they are not a sample whereby to judge of the rest. Almost all the misprints, as "latterally," "vetebral," "orfices," are collected there; the line bb' is by no means "at the highest point of the crest of the ilium," and if "a portion of the descending colon" (? the splenic flexure) be in the left hypochondriac region, why has not M. Tillaux drawn it there? The rest of the book will be read with pleasure, even by surgeons who never perform an abdominal section.

R. Augustine Chudleigh, M.A.

The Vivisection Controversy in Parliament: an answer to a speech delivered by the Right Hon. Sir Lyon Playfair, M.P., etc., in the House of Commons, April 4th, 1883. By Surgeon-General C. A. Gordon, M.D., C.B., etc. London: Williams and Norgate. pp. 95. 1888.

We have in this essay by Dr. Gordon the "last word" upon the anti-vivisection controversy; not that we doubt the possibility of more "last words" before we arrive at the conclusion—*probatum est*—Q.E.D. Regarding the question at issue from his own point of view, the object of the author is to "demonstrate that the arguments adduced in opposition to the Bill, proposed by Mr. Reid, were not only unsupported, but directly negatived by the weight of published evidence; that the grounds of utility and of humanity on which the rejection of that Bill was desired by advocates of 'experiment' on living animals are fallacious in themselves, and the practices thus indicated, in all respects, deserving of condemnation." With this object before him, the method adopted in the arrangement of his comments by Dr. Gordon is as follows, as stated in the the author's "introductory remarks:"—"The speech delivered by the Right Hon. Sir Lyon Playfair being looked upon as having led to the insuccess of the Bill introduced by Dr. Reid, I have taken from the published record of the former particular paragraphs containing definite statements; I have arranged them consecutively as they occur in that record, and in reference to each have made such comments as I have been led to by the study of records and works to which I had access." In his introductory remarks the author expresses the conviction that the evidence thus brought together is adverse to the grounds therein stated in support of the practices allowed, *i.e.*, to vivisection under any form or conditions whatever.

Sir Lyon Playfair, in opposing the views of the anti-vivisectionists as expounded in the Bill introduced into the House of Commons by Dr. Reid, stated the proposition that under the proposed legislation "a man could not stroke the back of a cat to show a student that electricity was developed without committing a crime; that he could not give a constipated patient a dose of castor oil as an experiment to see whether he could do without a drastic dose of croton oil; a physiologist could not put the web of a living frog under a microscope to show the circulation of the blood." Dr. Gordon's comment hereon is that it is in accordance with medical usage, ethics, and morals, and with the demand of the public, that in conducting the treatment of any particular case, a medical man may modify and change his methods and means to such an extent, and in such a measure as from past experience, and a due exercise of his judgment, seem to him to be necessary." In making this admission he urges that this is not saying that medical men have a right to experiment vaguely, and for no particular end upon their patients. Further, the author expressed a doubt whether a medical man in doing so would not place himself within the reach of legal proceedings.

Alluding to the general subject of "experiments," Dr. Gordon has the following remarks which we venture to doubt being justified by facts:—"In perusing evidence adduced by the 'experimentors,' the thing which most impresses one is the little importance the physiologists attach to pain, and their general incredulity that their experiments cause any, or if any, that is serious. We find vivisections described of absolutely sickening horror, which suggest agony such as the imagination cannot realize; and yet the physiologists who perform them inform us that in reality the suffering of the animal was quite insignificant; the pain endured only of the more trivial sort." Modern physiologists, the author insinuates, regard living animals, with Descartes, to be but animated machines. This picture admits of some little deduction for accuracy. Do not the exertions of physiologists in the direction of obtaining anæsthetics rather tend to dispose of a large proportion of these animadversions, which of themselves we cannot believe to be justified, and which are not borne out by the reports of Goverment inspectors?

In the opinion of the opponents of vivisection there are other methods of research which have stronger claims upon our regard than the results of experiments upon living animals; these are clinical and pathological investigations, and morbid anatomy and physiology. The results of such observations, aided by microscopy, are undeniably of the greatest value, but they do not exclude the collateral help of the conclusions to be derived from experimental research. Sir Lyon Playfair expresses what we are disposed to regard as an incontroversible proposition:—"By experiments on animals, medicine has learned the benefits, and also how to avoid the dangers of many potent drugs, as chloroform, chloral, and morphia." Dr. Gordon, however, does not accept this statement, quoting Mr. Tait as his authority for looking "upon all new drugs with great suspicion, and for fearing that most new drugs do more harm than good." "Chloral most certainly has done so. . . . Carbolic acid has done more harm than good." These statements, we take leave to say, are directly opposed to our own experience, and we feel confident that we are not alone in regarding them as anything rather than a temperate and deliberate, or scientific conclusion. Having carefully gone through Dr. Gordon's comments upon Sir Lyon Playfair's propositions, we cannot otherwise than concur in the opinion, that the "proposed Bill originated in a benevolence wholly indiscriminate, and

that it will infinitely augment the animal suffering it ignorantly seeks to alleviate;" inasmnch as it will diminish the prospect of discovery of the means of relieving or preventing suffering; nevertheless, we concede that Dr. Gordon has made out a strong case for the anti-vivisectionists.

W. B. KESTEVEN, M.D.

Short Notices.

Case of Myxodema. By Dr. MOSLER. *(Bericht über die verhandlunger der deutschen Gesellschaft für Chirurgic xviii. Kongress*, 1889.)

THE patient was a female, æt. fifty-six years, who had suffered severely from coldness of the feet; gradually she found that the thumb of her left hand became paralysed, in the course of three months she noticed swelling of the back of the left hand and of the fingers, and subsequently of the whole arm. In two years time the swelling of the surface had extended to the trunk and right upper extremity, and subsequently the lower extremities appeared to be œdematous. When this had reached to a considerable extent, the face and eyelids were swollen. About the same time the mucous membrane of the mouth, nostrils, and pharynx were attacked by the affection. Speech was impeded, the voice hoarse, swallowing was rendered difficult. Associated with these symptoms was weakness of the memory, and other nervous symptoms, aggravated by the cessation of menstruation. These changes depended upon the deposit of a mucoid serum beneath the cutis and mucous membranes. The movements of the hands and feet became difficult; the skin was hyper sensitive to pressure; motor or sensitive paralysis was not perceptible, but there were disturbances of the vaso motor functions. The patient became apathetic and had a stupid aspect. No distinct lesion of the thyroid body could be detected, the thickened state of the integuments prevented a close investigation of that gland, but a notable pad of fatty tissue filled up the space below the chin. The examination of a portion of integument from the neck showed œdema and proliferation of cells of the smaller arteries. The urine exhibited was of light specific gravity, but exhibited no special pathological conditions. In this case there is a morbid condition *sui generis*, analogous to the results seen after the extirpation of the thyroid body. Dr. Mosler quotes known authorities upon myxœdema, and submits the preceding as a typical case of that affection.

W. B. KESTEVEN, M.D.

A Guide to the Alterations in the British Pharmacopœia (1885), comprising an Epitome of the Changes, and an account of the New Preparations, their Character, Uses, Doses, and Modes of Administration, together with a Therapeutical Commentary. By PROSSER JAMES, M.D. Third edition. London: Churchill.

THERE is a very long title to this small book, but, happily, it fully carries out in detail what is implied in the title—something that cannot always be said of books, that promise much and perform little. At the revision of the new Pharmacopœia, new medicines were incorporated, and it is to these medicines that Dr. Prosser James desires to direct attention. Thus we have a very excellent account of such substances as eucalyptus, pinus sylvestris, sandal wood, menthol, thymol, caffeine, coca, jaborandi, etc. In the article on cascara sagrada, he makes a very strong comment. He says that "it is a marvellous thing that the General Council of Medical Education translate this as 'sacred bark.' Such a popular name may be very well as a synonym, but is certainly no rendering of the Latin words. But surely the learned Pharmacopœia Committee should know that 'cascara sagrada' is not even dog Latin for sacred bark, and yet they proceed innocently to decline it after the first declension feminine, and give us both words in the genitive. So we must write ext. cascaræ sagradæ, etc., though the words are not to be found in Ainsworth or Riddle, but will turn up in the first Spanish dictionary which may be within reach of our Educational Council. It was scarcely to be expected that a committee on which Oxford is so ably represented should show weak Latinity, but even Homer is said to sometimes nod, and the ext. cascaræ sagradæ of the new British Pharmacopœia may serve to raise a smile, and remind us of the Oleum Theobromæ of 1867." We shall have to accept this nomenclature and declension. It is but adding another item to the quantity of bad Latin we already possess. Dr. Prosser James' little book has evidently been appreciated, as it has reached a third edition. The present one has been much improved. One of its best features is the index.

Dermoids, or Tumours containing Skin, Hair, Teeth, etc. By J. BLAND SUTTON, F.R.C.S., etc. London: Baillière, Tindall & Cox.

THIS book is the outcome of the Hunterian lectures, delivered at the Royal College of Surgeon, London, in 1889; and in the new form they have gained, as in addition to the text, there are admirable illustrations of the structures under consideration. Dermoid cysts are now studied in a manner unknown to the older pathologists, as the evolutionary theory has materially helped to clear up their pathogenesis; and Mr. Sutton has so studied his subject that we have in this treatise a key to the explanation of those abnormal tumours, which have so long puzzled pathologists. Dermoids, according to Mr. Sutton, are cysts or tumours furnished with skin or mucous membrane (which may or may not be accompanied with the appendages peculiar to these structures) occurring in situations where skin and mucous membrane are not normally found. This definition is sufficiently comprehensive, and Mr. Sutton then considers in detail a number of specimens which have been furnished him by the pathological, obstetrical, and gynæcological societies, and by individual workers, as Mr. Henry Morris and Dr. Granville Bantock. Dr. Granville Bantock furnished him with a very interesting specimen of a mamma from an ovarian dermoid, and here we see the bearing of Mr. Sutton's studies from the evolutionary point of view. Another interesting chapter is that on bronchial cysts; it is an excellent model of close reasoning applied to science. The book only extends to 131 pages, but it has matter in it for a few weeks' reading.

What to do in Cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P. Sixth edition. London: H. K. Lewis.

"I AM told," says Dr. Murrell, in the preface to the fifth edition, "that this book has been the means of saving many lives. I hear that a gentleman who thought of poisoning himself changed his mind on reading the directions for treatment. He was of a retiring disposition, and objected

to have a pint of hot strong coffee injected into his rectum." General readers, as a rule, will not take much interest in this book; would-be suicides, if they consulted it, might certainly be deterred by the fulness with which directions for treatment are given, and the rigor of the treatment. For the practitioner and student the book is invaluable. It should lie in a poison-bag or case ready to hand, so that in emergency it may be consulted. Memory is not always to be depended on, besides we have so heavy a tax on it that it is no wonder we forget so much. Nay, it is perhaps a blessing that we can forget, or do forget, for otherwise there would be no progress. This may sound paradoxical, but on examination it will be found not far from the truth. Dr. Murrell has even included a consideration of an antidote against many other ills of life—the fee—which is very often forgotten, so that the practical nature of his work, and his consideration for the patient in relieving him or his friends of the trouble of fixing it, are deserving of the highest praise.

Anæsthetics, Ancient and Modern; their Physiological Action, Therapeutic Use, and Mode of Administration, together with an Historical Resumé of the Introduction of Modern Anæsthetics—Nitrous Oxide, Ether, Chloroform, and Cocaine—and also an Account of the more celebrated Anæsthetics in use from the Earliest Time to the Discovery of Nitrous Oxide. By George Foy, F.R.C.S. London: Baillière, Tindall, & Cox.

This is a most interesting book, and we thoroughly sympathize with one of the author's aims when he says, "In undertaking the work I was actuated by the wish not to rob the moderns of those things which they have discovered or judiciously followed, but to render up those inventions which have been described by the ancients to their rightful owners." It will be found by referring to Mr. Foy's book that the prevention of pain by means of drugs is not a modern conception or practice. The earliest writers on medicine appear to have been acquainted with medicines which had the property of producing insensibility, and we refer our readers to the very interesting and learned account given by the author of the practice of the ancients in this respect. The history of the discovery of chloroform is one of the romances of modern times, and its recital even can always be invested with fresh interest. Mr. Foy has not only made the chapters devoted to the subject interesting, but he has treated it on strictly scientific lines. The deaths from chloroform in modern times have been alarming, if we can credit certain statistics. According to some it is fixed at 1 in 525 administrations. This is a very serious mortality, and we do not wonder at its exciting comment and the recourse to other agents. The old statistics did not give such results. Dr. Hunter McGuire had 28,000 administrations without a single death; Dr. Chisholm had 10,000 without a single death; Kidd (London), 10,000 without a death; Bardeleben administered chloroform 30,000 times before he had a death; Billroth 12,000 times before he met with his first accident, etc. These figures are remarkable, and cannot be explained away. In looking into the causation of the high death-rate we have to look at two separate factors: (1) the administrator, and (2) the chloroform. It ought not to be difficult to explain the high death-rate. Dr. Foy's book will, we believe, be widely read, and will help in the clearing up of this very important point, because it will set men thinking, and that is one of the first steps required, for then, as Mr. Foy says in his preface, "Truth will come out." This is a book to be taken up as a relaxation from professional labour, and we heartily welcome it to our shelves.

Heredity: a Study, with Special Reference to Disease. By R. A. Douglas Lithgow, LL.D., M.R.C.P., etc. London: Baillière, Tindall, & Cox.

The readers of the Provincial Medical Journal have been able to form an opinion on this book, as most of the material in it appeared in the columns of this journal. From many letters received we have every reason to believe that the articles were much appreciated, and now that they are presented in a collected form to a wider circle, they are more likely to be still better appreciated. Dr. Lithgow has brought to his studies a liking for his subject, and this is evident in the painstaking manner in which he has followed the track of heredity through all its different manifestations, and he certainly deserves the credit for presenting many of its phases in a new light, and giving to the study of heredity in disease a systematic basis. By means of the admirably classified and extensive index, the reader can at once find out the range of heredity. This index is all the more necessary, because Dr. Lithgow has not divided his book into chapters, but has rather treated it after the manner of an essay, putting headlines, however, for the various subdivisions of his subject. Heredity is one of the most interesting subjects in connection with medicine, and of late years greater attention has been deservedly given to its influence, and English literature has had the reproach of being particularly barren in all that relates to this complex problem—a reproach which has of late years been very considerably diminished; and amongst the latest contributions, the work of Dr. Lithgow will be accorded a high place.

Man and his Maladies, or the Way to Health: a popular Hand-book of Physiology and Domestic Medicine in accord with the Advance in Medical Science. By A. E. Bridger, B.A., M.D., B.Sc., etc. London: John Hogg.

Dr. Bridger has evidently a high conception of the intelligence of popular readers, or he would not have presented them with this philosophic work, and we sincerely hope that he will find an audience of readers; for whoever can master the principles of life and the principles of scientific medicine, as laid down by the author, will certainly not venture to treat himself; but with a higher conception of the wonderful structure of his body, wisely seek a physician, and even be particular as to the one he consults. Certainly, mothers will not think of treating their children when suffering from infantile complaints if they read his descriptions. We give one example: his remarks on whooping-cough. He says very truly: "The frequent repetition of a violent cough, such as is that of whooping-cough, constitutes in itself a grave danger. The strain thrown by it on the blood-vessels of the head is visible in the swollen and bulged face, the blood-shot eyes, and the not unfrequent bleeding from the nose. These are of trifling import, but the pressure on the circulation in the brain is of a serious kind, and

may even end in an effusion into the ventricles of that organ, and this to convulsions and death—a by no means uncommon termination of the disease. The violence done to the lungs may also end in severe secondary mischief, of which *bronchitis, chronic dilatation of the bronchial tubes* (*i.e., bronchiectasis*) or of the air vessels (*i.e., pulmonary emphysema*), or obstruction of some one or more of the bronchial tubes, leading to *collapse of a portion of the lung*, are perhaps the commonest; whilst pleurisy and the capillary variety of bronchitis, both very formidable complications, may also be occasioned." The italics are Dr. Bridger's. The author may certainly take credit for not producing a book framed upon the ordinary conception of the complete pocket physician, so many of which are now in the market. We cannot help thinking that his book will never become popular, though it may have the effect of making the author popular.

On Bedside Urine Testing: a Clinical Guide to the Observation of Urine in the course of work. Fourth edition. By George Oliver, M.D. Lond., F.R.C.P. London: H. K. Lewis, 136, Gower-street.

Dr. Oliver, by the introduction of his tests, has not only simplified our methods of urine testing, but he has almost revolutionised them. They are admittedly most convenient, portable, staple, trustworthy, cleanly, handy, and time-saving. In this book, which has now reached a fourth edition—a proof of its need and popularity—Dr. Oliver explains how and why the tests should be used; and he has pointed out the diagnostic significance of the various urinary states usually met with. Urine testing has now resolved itself into something more than testing for albumen, and the perfunctory mode of examination once in vogue has disappeared. The advantage of knowing the condition of the urine is fully appreciated by all sound practitioners, so that we need not insist upon the great value of a guide of this nature, which embraces nearly all that can be said on the subject.

Buxton: its Baths and Climate. By Samuel Hyde, L.R.C.P., M.R.C.S.

This is a guide to the baths and waters of Buxton, giving an account of the origin of the place, the nature and therapeutic value of the treatment received there, an exposition of the principles of bathing, and of massage, with a description of the walks and drives in the neighbourhood to Buxton, likely to prove useful to an intending visitor, or of the physician who desires to know what kind of case is likely to benefit by residence there. The author discusses the subject of absorption by the skin, and advocates the use of a highly rectified spirit to remove the fat from the surface of the skin before employing the bath. Now, considering the tension of gases and fluids in the blood vessels, we much doubt whether the obstacle to absorption lies in the fat alone; apart from this we question the advisability of removing from the whole surface of the body so valuable a protective as its natural fat. We are not disposed to agree entirely with the author in his condemnation of warm climates for all cases of phthisis; a certain number of patients are certainly benefited by a cold bracing atmosphere, but there are others who cannot stand cold, who are just as certainly relieved by warm surroundings; probably an increased knowledge in the future will help us to decide the kind of case suited to each kind of climate. Again we are disposed to question the soundness of the view that a place is healthy in proportion to the scantiness of its vegetable; a region without plants and wild flowers, as Buxton is claimed to be, will hardly recommend itself as the best place for an invalid with much time on his hands.

W. T. Holmes Spicer, F.R.C.S.

Cancer and its Complications. By C. E. Jennings, F.R.C.S., M.S., M.B.

The preface states that this book was written to elucidate certain points in our knowledge of cancer, the main one being that cancer is a local disease, and that, therefore, if removed sufficiently early, it can be cured. Including under the term cancer the carcinomata and sarcomata, the author gives all the varieties of each group, with a brief description. This is followed by an abstract of the great discussion at the Pathological Society in 1874 on the nature of cancer, some of the opinions then stated being given at some length. The author has little difficulty in showing that the greater strength of argument is in favour of the local origin of cancer, although there may be a disposition in some tissues favourable to its onset and growth. From this there follows the inference that cancers may be completely eradicated by surgical methods if taken early enough. The next part of the book is given up to the diagnosis and treatment of cancer as it occurs in the various regions of the body, with the operations best suited for its removal. The author asks us not to give up the hope that some specific may be discovered, which will exert an influence on the growth of cancer; he himself states his belief in some beneficial action of Chian turpentine when given in large doses for a sufficiently long time. Certainly there is no objection to its use in cases which are beyond operative treatment, but we quite agree with Mr. Jennings, in not having sufficient confidence in it to advise its use to the exclusion of surgical measures, in cases where the cancerous growths can be completely eradicated.

W. T. Holmes Spicer, F.R.C.S.

London, Ancient and Modern, from the Sanitary and Medical point of view. By G. V. Poore, M.D., etc. London: Cassell & Company.

This book is an expansion by two addresses delivered by the author. It is a book to take up in a leisure moment, as it is written in a light and pleasant style, and abounds in anecdotes and short histories of old medical worthies. The history of the chief London hospitals is well given. The book is illustrated by a map, showing London in 1658. It has several illustrations of well-known medical places of interest.

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NOVEMBER, 1889.

Amongst the many congresses held this year there was one of seamen, and Cardiff was the locality selected for its sittings. The enormous interest connected with the shipping industry is out of all proportion with the very slight interest taken in those who "go down to the sea in ships." The hardships of the sailor's life, independent of the dangers, are proverbial. But the sailor, in health, appears to make little of his work or its perils. He cannot be considered to be a grumbler, or we hardly think he would so long have submitted to many of the conditions of service and to his surroundings. The sailor does not expect to lie in a feather bed, or to have on board ship a spacious apartment to sleep in; but he certainly does appear to have a claim to a full supply of fresh air in his habitation on the forecastle. The convict in prison is entitled to 300 cubic feet of air, but the sailor has to be content with seventy cubic feet space, a quantity totally insufficient for any human being. The food, too, served to the sailor in some vessels, is of the worst description, and as hard work has to be done in all weathers it appears a very short-sighted policy to under-feed their crews. There may be some difficulties in connection with the sleeping accommodation in the cabins of the men, but there ought not to be the slightest difficulty in connection with the food supply. This is a matter which concerns the men themselves, and which they can easily settle, as they seem disposed to do, by combination. There is one subject which appears to us to demand more serious attention than it has received from the Legislature, and which more nearly concerns us—viz., "The Medical Care of Sailors." The policy of the best steamship companies is to have an experienced surgeon who makes a speciality of this branch of work; but, unfortunately, all the companies do not adopt this system—not because they cannot meet with experienced men, but because they will not offer sufficient inducement for competent men to take up their appointments. The principle of supply and demand is acted upon. They find that they can obtain medical service at a cheap rate in the open market, and as there are a number of candidates who want to see a little life, or a change, they fill up their appointments from candidates who do not intend to settle down to a seafaring life. The surgeon with certain companies is looked upon as a supernumerary—as something necessary to comply with the law, but as a nuisance rather than a help. He may make himself disagreeable by pointing out sanitary defects, or by exposing the bad dietary of the men, and he may add to expense by insisting on proper hospital accommodation.

The commercial element has a very large preponderance with some shipping firms, the lives and comfort of the men being a secondary consideration. Our remarks do not apply to a number of companies who recognise that their seamen are deserving of full consideration, and that their best interests are consulted by making the best possible provision for their men. The paper read by Dr. Leet at the Seamen's Congress at Cardiff exposed some of the legitimate grievances of sailors in connection with the medical service, and it is significant of an awakening interest on the part of the sailors themselves that a paper of this kind should have been read at this conference; though we are astonished that there was not a discussion upon it, and that some further testimony was not adduced as to the ill-condition of the hospital accommodation on board the ocean-going steamers. And this is very remarkable in the addresses of the various speakers: they dilated on the hardness of the sailors' life; they described his sufferings in case of wreck, etc.; they spoke of his services to the nation; and then they went on to his grievances, and exposed the heartlessness of those who sent coffins to sea in place of ships, and overloaded vessels, but none of the speakers touched upon the subject of medical aid. This omission may be taken to negative the statements of some of the ship surgeons, who have written so strongly upon the bad accommodation provided for sick sailors, and upon the slight consideration given by ship owners to the medical treatment of their crews. But when examined, it does not admit of this conclusion. It took the profession a long time to excite public interest in the medical treatment of the sick poor, and even to stir up the public as to the value of sanitation, but we did succeed, with results known to all our readers. There is a process of evolution running through everything. The germ must be sown, and in time it grows, but it requires favourable circumstances for its development; so we may reasonably expect that history will repeat itself with regard to the medical provision for sailors, and that

> "The dear little cherub that sits up aloft,
> To watch o'er the fate of poor Jack,"

may put it into the minds of the leaders of the Sailors' Congress to give a little more practical assistance to the schemes brought forward for the better medical care of our seamen.

Longfellow, in a well-known poem, represents a youth climbing the Alpine heights with a banner, on which was engraved the word "Excelsior," and higher the youth went—but his end was early death. The spirit of the poem is admirable; we should aim at the highest ideals, even though the end be death. And in medicine it is well to start in life with the loftiest ambition, with the highest conception of medicine, both as an art and a science. The roseate pictures drawn by the introductory lecturers help the youth to form in his own mind a loftier ideal; and it may serve as an incitement during life to keep the motto "Excelsior" before his mind. The conception of medicine is of two kinds: First, the higher one as a beneficent profession, practised in the interest of humanity, the great object in view being the relief of human suffering which may be achieved in various ways by medicine and by surgery. The historical aspect of this question is most attractive; through

all the ages we find the physician taking the part of the good Samaritan, not only pouring oil into his wounds, but carrying the patient upon his ass. The traditions of medicine have been carried down in unbroken succession, and appear likely to be carried down until MACAULAY'S New Zealander comes to stand upon a broken arch of Westminster Bridge to sketch the ruins of St. Thomas's Hospital. The second conception is of a more material nature, and relates to the pecuniary results which may follow from the practice of the art. The potentialities are great. Visions may arise before the mind of the student of the fabulous incomes supposed to be made by fashionable west-end physicians and surgeons. The surroundings of wealth are very often mistaken for wealth itself, for "all is not gold that glitters;" and so the average conception of the income of the successful practitioner is magnified by the glamour of youth. The prospect is very luring. A house in Harley-street or Cavendish-square, with a country residence down some of the reaches of the Thames, a magnificent equipage to drive round and visit aristocratic patients, a daily list of which is kept by a gentleman's gentleman, who assures each new-comer that it is only by special appointment, and by special favour, that the doctor can be seen, as he ostentatiously flourishes his carefully prepared list of the fortunate individuals who have been able to obtain a consultation. These are but a few of the convincing proofs of success upon which we might indefinitely expand. Each French soldier is said to carry figuratively, in his knapsack, the baton of a Marshal of France, so each student at the introductory lecture may also be said to have within himself the potentiality of becoming a leader in medicine, with all the rich rewards of such a position. This is the ideal. What though a youthful romance be built up of the future, which, like a house of cards, tumbles to pieces at the first rude touch; yet there has been a pleasure in the construction of the edifice, just as with children there is said to be as much pleasure in the destruction, as in the erection of the house of cards. Our life is very much made up of broken idols. Most of us are day-dreamers, for without the imaginative faculty man would be a very poor creature. TENNYSON has said that—

> "It's better to have loved and lost
> Than never to have loved at all."

And so it is better for the youth to have at one time had ambition, than never to have been stirred by noble influences. The romance of life has a very short period of existence, and the halcyon days of studentship are the days, for after qualification, the stern necessities of life, and the struggle for existence, put a rude end to all romance, and the question comes as to how practice should be commenced, and where, and when? This question is becoming more difficult of solution each day, For every hospital appointment at our schools of medicine there are too many candidates; for the public service there are too many candidates. Private practice does not present so many openings, and here the competition is so fierce that every form of bidding for patients is resorted to, so that the youth who hopes to receive guinea fees has perforce to content himself with the odd shilling, which time immemorial has consecrated as the medical fee. What a falling off is there, to have to accept the ignoble silver in place of the nobler metal. And then, too, the surroundings under which even this small sum has to be earned. It has to be won in a district far removed from Mayfair, and amidst an environment all too unlovely, and from clients whose dress and *entourage* are very different indeed from those who flock the crowded consulting rooms of West End physicians.

Facilis descensus averni; and it is fortunate perhaps that the transition is brought about with apparently so little friction, and that men so easily accustomed themselves to their circumstances, otherwise it would be impossible to have the profession in such a state as it is now, for we cannot imagine it possible that the benches of our lecture rooms would be filled with students who looked forward to the practice of medicine under such conditions as are at present the fashion. They must enter the profession surely with richer anticipations than is conveyed by the prospect of a provident dispensary, or a shilling practice, and their idols must have been framed after the model of the consultants and specialists whose lectures they attend. It may be true that the nobility of the profession, and the fact that they are relieving humanity, contents them even in the humblest quarters; and if this be so, then indeed does the profession deserve well of mankind. In any case it is consoling to know that philosophy enters so largely into the medical nature, and that when men find they cannot reach the top they are content to linger at the bottom. An American humorist said "there was no use in crying over spilt milk, as it only made the rest more watery;" and so if the student repined instead of setting to work in another sphere, the condition would be even still worse, we may come to the cardinal conclusion "that all is for best in the best of all possible worlds."

THE word euthanasia frequently occurs in modern literature, and when we come to consider its real meaning, or its root, we find that it has its origin in the Greek *eu thanatos*, or a happy death. It has been applied by the poet to those who found a harbour of rest after the fierce battle of life, but it has another meaning: it is a euphemism for self-homicide, or suicide, and judging by our modern records it would unfortunately appear that this form of escape from the troubles of the world is on the increase. If death were the end of all, and we had simply "to die and lie in cold obstruction and to rot," then, indeed, the term would be applicable; but SHAKESPEARE adds a few very important words to the above quotation which altogether alter our estimation of euthanasia. He says in "Measure for Measure:" "Aye, but to die and go we know not where." This view of the possibility of a hereafter (which to most of us is a certainty) opens a vein of thought as to the causes which are at work in the production of suicide in modern

times. We trust that we are not about to have a Pagan renaissance, or that suicide is to be elevated into a moral virtue, as believed in by a number of eminent Pagan writers. If belief in a future state should become extinct, we fail to see what check we shall have upon those who have become tired of existence, for life to a large number is anything but a pleasure, and life to those who are suffering from incurable disease is a burden. At present, for the many "it is nobler for the mind to suffer the sting and arrow of outrageous fortune," and to bear disease, because they are consoled by a rich promise held out by God; but if we take that hope away, there can be nothing to keep them from cutting the knot in a summary way. Self-homicide, however dignified by the term euthanasia, is opposed to Christian ethics, and it is not only so opposed, but it is punishable by law. *Felo de se* is a statutable crime, and the property of the suicide, we believe, really reverts to the Crown. By another euphemism the crime is condoned, as we find appended to the verdicts of juries in case of suicide the legend "Temporary Insanity," this being done to spare the feelings of relatives, and to save the property of the unfortunate who has taken his own life. It is a question open to very grave consideration whether this euphemism is beneficial to society, and whether we are not encouraging self-homicide by being so tender about it. Undoubtedly, insanity does lead to self-destruction, but it cannot be seriously entertained that every suicide is insane.

The increase in suicide is all the more remarkable, as it is coincident with the spread of education, for, *primâ facie*, it might be thought that education would rather tend to prevent this crime; but when we actually find that suicide prevails even amongst children, we can see that knowledge is not always power, and that pure learning is not of itself a preventive of crime. There must be many causes at work in the production of the crime, and some are at once apparent. We know positively that drink causes a certain percentage; that insanity also adds a percentage; but besides these two causes there must be others at work, for both of the former do not account for even 50 per cent. of the suicides. Over-excitement, fierce competition, the wear and tear of modern life, disappointment, passion, and many other similar causes help to swell the annual average; but these by themselves ought not to be sufficiently potent causative agents, if there were any sense of moral obligation in the individuals, or if they had a solid substratum of religious belief to fall back upon. It is a difficult problem to solve as to the why, though we may moralize upon it, and suggest a train of thought in some of our readers' minds which may help more thoroughly to localise the lesion. The modern literature of the day has often been incriminated. "*Is life worth living?*" asks one writer. Immediately we have a flood of answers of the most pessimistic kind, and some poor weak mortal—influenced in a measure by the gloomy picture drawn—cuts the thread, and seeks release from the troubles of life in what has been called "a happy death"—euthanasia. We can point to many other books which more or less—far from the intention of the authors—contribute to despondent views of life, and indirectly lead to suicide. The hopeless views of life, the blotting-out of a hereafter and an eternity, the sceptism prevailing as to the value of religion, are not indications of a healthy state of society; but, fortunately, all our literature is not painted with the same cast, and we fancy we see a lifting of the cloud, and signs of a more optimistic revival. Mrs. Henry Wood, in an article published in the *Argosy*, has very graphically described the feeling of a would-be suicide. He intended to commit the act, but nature cast upon his soul the sleep of exhaustion, and in a dream he passed through all the horrors of an eternity. Remorse stirred his heart, yet he could not escape, and he awoke in agony, never more to dream of self-homicide. This man was sorely tempted, and he hoped to escape from his misfortunes by tasting the quiet of the grave, "but there was no quiet for the suicide." It is a powerful piece of writing, and Mrs. Wood has grasped the great truth that despair should not so grasp the human heart that God's compassion may not reach it.

The influence of writers who hold that suicide is a crime ought to be as great as that of those who condone it as an offence against the Deity and the moral law, and we believe that the Christian moralists are more numerous than the apologists for euthanasia. The influence of our profession has always been on the theistic and Christian side, and we believe that the number of suicides has been much diminished by the personal influence of medical men.

At the recent Congress of French Surgeons the subject of the immediate and remote results of operations for local tuberculosis was examined by a number of eminent operators, as MM. Verneuil, Lannelongue, Le Dentu, Guyon, Terrillon, Boeckel, etc., who considered it, as it affected the special parts of the body, as the fungus, bladder, foot, ovary, eye, etc. M. Leon Petit (*L'Union Médicale*, Oct. 5th, 1889) has ably summarised the facts brought out by the discussion. Surgical tubercular lesions—caries of bone, articular fungosities, scrofulous adenitis, spina ventosa, cutaneous ulcerations, etc.—are due to the presence of tubercular elements, and contain the bacillus of Koch. For some time—and in particular since the nature of the tubercular lesion has been known—there has been a constant strife between operative medicine and therapeutical medicine as to the treatment of the local lesions. To solve the question we want facts, and not reasoning. We must classify the facts collected into numerous divisions, on account of the multiplicity and diversity of the elements of appreciation, and we must follow the cases for a number of years. It is only thus we can appreciate the immediate and remote effects of operation. The difficulty arises of our being unable to follow the after-history, as the patients are lost sight of. The immediate results may be good, mediocre, null, or bad. It has been said that with antiseptic dressing there are no complications with operations on the tuberculosis; that numerous facts testify that the operation may give start to

lesions and to tubercular lesions, in organs remote from the operative zone—lungs, meninges, liver, kidneys—and provoke the rapid development of these lesions. A patient suffering from tubercular arthritis of the knee: on auscultation, nothing is found the matter with his lungs, and amputation is performed. Two days afterwards pulmonary complications take place, and the patient dies within the week. At the autopsy both lungs are found full of miliary tubercle. During and after operation the presence of tubercles in the lungs constitute a constant danger of asphyxia, and the patient is anæsthetised. Many cases of syncope—mortal or not—met with during or after anæsthesia are due to the existence of miliary tubercle of the lungs, which is often impossible to discover by auscultation, and only reveals itself by *post-mortem*. MOLLIERE, of Lyons, advises when there is phthisis in the third degree rapid operation, in order that the quantity of ether or chloroform may be reduced to a minimum. The traumatic accidents consecutive to operations on the tuberculous depend most frequently on infection produced by the presence of common pyogenic microbes in the wounds of these subjects. In other words, according to MOLLIERE, the results of operations on the tuberculosis may be benign, provided we can avoid traumatic fever. The remote results may be good, mediocre, or bad: good, when to operative success is added therapeutical success—the cure is durable with or without mutilation; mediocre, when there is operative surgery, but the tuberculosis after variable time again appears, ending in death; bad, when there is neither operative success nor therapeutical success. In the classification proposed by M. VERNEUIL, we must take account of the circumstances which depend on the operation; the lesions of the patient and his environment. The operative results would be different, according to the general treatment followed by the patient during and after operation, and will depend upon whether a cutting instrument, cautery, or injections be used; complete or incomplete extirpations have also their effect. The results, according to BOECKEL, VERNEUIL, and OLLIER, are better in acquired than hereditary tuberculosis. M. JULES BOECKEL (Strasburg) states that out of 204 cases of amputations and resections performed for local tuberculosis, the mortality of the amputations has been double that of the resections. The results differ again, according to the seat and extent of the lesions. The region invaded is of no great importance.

The gravity of the operation, too, is different, according as the tuberculosis has its seat in the pleura, peritoneum, or finger, in the hand or foot, in the ganglions or the bones, according to one or many centres, as it is localised or generalised. We may attack with chances of success the gravest forms of tuberculosis, the lungs, peritoneum, etc. Resections of the neck give excellent results, because the patients are not obliged to remain in hospital. Two or three days after operation—thanks to antisepsis and immobilisation—they may be sent out to the pure air. The results are inferior in the case of the foot, because the patients are obliged to remain in bed for many months. They live in a bacillary atmosphere, and if not already infected, they become so, according to OLLIER, by absorbing the bacilli in the air they respire and by the food they take. In tuberculosis of the ganglions generalisation may be rapid after extirpation by exciting the neighbouring ones (DEMOSTHENE), which often appear healthy because they are small, but microscopical examination often proves that they contain bacillary nuclei (ISCOÆSCO). Ablation of the ganglions is then a bad operation, which should be interstitial injections of anti-bacillary solutions (VERNEUIL, DEMOSTHENE). In articular tuberculosis resection only allows complete ablation of the lesions. The immediate results are yet more favourable than in extirpation of the ganglia. But amputation is preferable to resection; operations on the bones give better results still; but for abscess, general tuberculosis developes with extraordinary rapidity. In certain osteo-arthrites, the bones are diseased through the whole extent of the marrow. There are tubercular nuclei, without appreciable symptom on the side of the periosteum, or of the soft parts. Previous trephining of the bone will establish the diagnosis. Partial amputations leave interminable fistulæ, and when these lesions are in certain situations, as the knee, disarticulation of the hip is preferable (LE DENTU). In osseous tuberculosis we must distinguish two forms—the one circumscribe; the other invading. The first may be cured by local action; the second yields to amputation of the member, when the means employed to arrest its march have failed (BOSQUET). In tuberculosis of the foot, the region in which conservative surgery gives the worst result—so far as the remote result—amputations and resections gave almost the same mortality; but general rules cannot be laid down, on account of the diversity of the patients, their age, social conditions, environment, etc. In infancy, intra-articular cauterisation gives the best results. In the adult, thirty to forty years of age, resection is indicated; but when the lesions are extensive, and we cannot remove all by resection, OLLIER counsels amputation. LEONTE lays down that in tuberculosis of the limbs, radical operations are preferable to sparing ones. In tuberculosis of the bladder, when palliative treatment by intra-vesical injection and internal medicine are powerless, we must act direct upon the lesion. Practise hypogastric section, and by raclage remove the diseased part of the mucous. In four cases, Professor GUYON has obtained temporary rcovery, with relief of suffering. GUYON and LE DENTU recommend permanent drainage, and the hypergastric operation to the perineal one. At the end of a certain time the drainage-tubes can be replaced by a special apparatus (LE DENTU) adapted for hypogastric fistula. The results obtained by the operation for tuberculous vesical depend above all on the state of the kidneys and the prostate. The kidneys are always attacked before the prostate, and the operation can only be put off by palliative treatment. The pain must be alleviated by injections of cocaine and boracic acid (RAVAUX). "But," said M. GUYON, "the

surgeon now-a-days does not try to palliate for a time, but to cure, by taking away all diseased tissue." Tuberculosis of the kidney may be cured by the total extirpation of that organ; that of the prostate by curage (Le Dentu); that of the eye by total ablation (Vigue); that of the uterus by raclage and cauterisation (Bouquet); that of the ovaries and the tubes by a radical operation, when there is intense pain, pelvic peritonitis, etc. (Terrillon). Operative interference then in local tuberculosis gives excellent results, as it removes the causes of infection, and prevents other parts of the body from being infected (Molliere).

Adults require a little more radical operation than children. The statistics of children cannot be applied to adults. In the infant, we can cure—according to Molliere—almost all tuberculous affections without having recourse to the bistoury. M. Leonte goes much further, for he thinks even in adults we may obtain the cure of local tuberculosis by general treatment and interstitial injections. In subjects attacked with pulmonary phthisis, with local tuberculosis, the radical ablation of the latter may be followed by immediate reunion, as in healthy subjects, and by considerable amelioration of the pulmonary lesions (Le Dentu, Molliere, etc.) In such cases it is necessary to ensure immediate reunion, and we must drain and reduce the minimum of bed.

In conclusion, thanks to antiseptic treatment, operations on the tuberculous are indicated in every case of local lesion, and the results must not be calculated from the pre-antiseptic day, as recent results are more encouraging. We must put our patients in the best hygienic conditions—salubrious surroundings, pure air, sea, if possible; submit them to a tonic and reparative course of treatment for months, and even years; administer medicines capable of destroying the bacillus scattered in the organism; disinfecting the operative part with various antiseptics—bichloride, ether, phenic acid, etc.

Annotations.

"Forsan et hæc olim meminisse juvabit."

THE ADDRESSES AT THE OPENING OF THE SCHOOLS.

We publish in this number the full text of a few of the addresses which have been delivered at the opening of the schools, and we are warranted in saying that this year the addresses have been far above the average of former years, both in point of matter and form. These introductory lectures are well worth reading by all thoughtful students and practitioners. They open out suggestive thoughts on the scope of medicine, and they elevate it on to a higher platform. It is true that roseate pictures are drawn; that in the struggle in after life, which the student will have to undergo, the ideal will have to take the wall. But it is well to have ambitions, and even though disillusion may come, it is better to have once had higher thoughts of the dignity and the scope of medicine.

DANGERS OF ADMINISTERING GAS.

The death of Lady Milne in the operating room of a dentist was very sad, and though, fortunately, it is a rare occurrence to read of an accident of this nature, yet the possibility of death should always be taken into account. Familiarity begets contempt; but it should be remembered that we cannot produce anæsthesia with impunity, and that the separation between life and death under an anæsthetic is but a degree. The chloroformist of to-day is, we believe, much more prudent than the chloroformist of the past. This prudence is highly to be commended. It has nothing to do with nervousness, but it pays due regard to contingency, and death is a contingency of chloroform administration. This lesson will not be lost upon dentists, and will check any tendency to free administration.

THOMAS'S SPLINT.

At a meeting of the Medical Society of Virginia Dr. John Ridlon, of New York, read, by invitation, a paper "On Some Practical Points in the Treatment of Hip Disease, with Special Reference to the Use of Thomas's Splint," and we are glad to see that this great invention is so justly recognised by one of the best American orthopædic surgeons. Dr. Ridlon considered the subject from the standpoint of the general practitioner, and he described other appliances. "But," said Dr. Ridlon, "to one, however, who was satisfied to treat tubercular joint disease in any part of its course without traction, or who was so circumstanced, as the general practitioner was, that he must treat all walking patients without traction, and to one who believed that immobilization, and not traction, was chiefly indicated in the management of the cases, Thomas's splint would prove of great service, as it could be made by a blacksmith and a harness-maker at a cost of not more than $2.50."

THE BIRMINGHAM SCHOOL OF MEDICINE AND DURHAM UNIVERSITY.

At the dinner of the Northumberland and Durham Medical Society, Newcastle-on-Tyne, October 5th, Mr. Lawson Tait made a very important announcement—probably intended as a feeler—that the Birmingham Medical School desired to be affiliated to Durham University. The occasion was most appropriate, as there was a thoroughly representative gathering of men interested in the success of Durham, and the proposal should receive almost unanimous acquiescence. Durham will strengthen its position, just as the Victoria University has done by its union with Leeds and Liverpool, by associating itself with such an excellent school as the Birmingham one. The question rises far above the loss of a few pupils at Newcastle-on-Tyne. Had such a spirit guided the governors of the Victoria University, then Leeds and Liverpool would have been excluded. The Birmingham scheme commends itself to us, and we trust that the proposal will be accepted, and that we shall be saved from the institution of another university.

MEDICAL ACTIONS.

We have lately had a plentiful crop of medical actions, thus emphasizing the necessity of supporting the Medical Defence Association. Dr. Eadie, of West Cocker, Somersetshire, was charged by the wife of a shepherd with an act of indecency, which rested on evidence so apparently and intrinsically groundless, that he was at once acquitted; but the result must necessarily be, apart from the anxiety and worry, that Dr. Eadie will be very considerably out of pocket. The harm done by accusations of this kind cannot be measured—for Mrs. Grundy is about—and any tale of this kind will lose nothing in the telling. Another action at present pending is against Dr. Campbell Black (Glasgow). *Pendente lite*, we cannot offer an opinion on the case, but the evidence, so far as given in the *Medical Press and Circular*, entitles Dr. Campbell Black to our full sympathy, and we do not doubt that a Scotch jury will do him full justice. But Dr. Campbell Black should not stand alone in this fight. We trust he will have the support of his professional brethren.

SENTIMENTALISM *VERSUS* SYPHILIS.

It would be only just that men who give or propagate syphilis should be punished. But we fear that such a course is impracticable. Syphilis is spread in our large cities, and we cannot ignore the existence of the agents by whom it is diffused. Some measures should be adopted to control the social evil. Compulsory registration, as adopted on the Continent, does not meet with favour from the scientific men who have studied the subject. But it appears to us that the French system has failed, owing to the penal clauses which sent the unfortunates to prison and not to a hospital. In Italy we believe that the Contagious Diseases Acts are no longer to be enforced, so that the arguments drawn from foreign customs no longer apply. Some control is absolutely demanded. Unlicensed prostitution in London, for instance, is worse than ever, in spite of police efforts, that the streets may be kept clear. But this does not diminish the evil; you do not get rid of dirt by simply putting it out of sight.

THE REGISTRATION OF MIDWIVES.

The dangers to which lying-in women are exposed from the ignorance and unskilfulness of untrained midwives are but too well known. They are worse even than revealed to us by inquests, for a good deal of the malpractice never comes to light. We are strongly in favour of the system of registration, even though it has one great drawback—that it will allow of untrained women being put on the register. This argument was applied when the Dentists' Act was framed, but it is not worth consideration. At first, no doubt, the untrained would gain, but this class would soon become extinct, as it could not be recruited. Again, it might be minimised if a clause were inserted in the registration scheme that the midwife claiming registration should have been practising her art for three years previously, and that three or six medical men should certify as to her competency. The tendency of registration should be to elevate the standard and status.

THE CONTAGIOUS DISEASES ACT AT SINGAPORE.

We have received a copy of the *Singapore Free Press*, September, 1889—an excellent English paper published in this English colony—containing a discussion at the Municipal Commission, and also a statement, drawn up by all the resident medical men, on the Contagious Diseases Act. Mr. Jiak Kim proposed a resolution to the following effect:

"That as the absence of any regulations for checking the spread of certain contagious diseases, arising from the dangerous trade or practice of prostitution, is proving injurious to the health of the public of this place, it is hereby resolved that it is expedient that steps be taken by the Municipal Commissioners to make and enforce under section 56 of the Municipal Ordinance, such regulations as may be found necessary for the protection of public health."

He supported the resolution by a quotation from Parkes:

"A great outcry has been raised against this proposal, which is yet a matter of precaution which the State is surely bound to take. A woman chooses to follow a dangerous trade—as dangerous as if she stood at the corner of a street exploding gunpowder. By practising this trade she ought at once to bring herself under the law, and the State must take what precautions it can to prevent her doing mischief. The State cannot prevent prostitution. We shall see no return to the stern old Scandinavian law which punished the prostitute with stripes and death; but it is no more interference with the liberty of the subject to prevent a woman from propagating syphilis, than it would be to prevent her propagating small-pox."

It would appear from his statement that syphilis was on the increase in the island, and that the conditions under which prostitution was carried on were different from what they are in England.

"The character and habits of our unfortunate women here are widely different from that possessed by the same class of women in England, where the females are as free and independent as the males. But the majority of our unhappy women here are not the independent persons that some suppose them to be. They are not, in the strict sense of the term, free agents, especially those young girls who form the bulk of our prostitutes. They have been in most cases sold, trained, and brought up for the sole purpose of earning money for their mistresses, whom they were taught from childhood to call mother—a word, sir, most convenient for their object in view, because it means not only blind obedience to all their commands, but it is also a word most prudent to use when they are before the eyes of the law."

Singapore comes under the English law, and it would appear from the statements of Major McCallum and Colonel Dunlop that the Municipal Commission had not the power under the ordinance to draw up any by-laws on the subject. Major McCallum put the matter very strongly in his speech:

Major McCallum said the motion as brought before the Commission was to his mind perfectly simple, and he regarded it as a point upon which that Board might congratulate themselves that it had been brought forward by one of the Chinese colleagues. Chinese prostitutes form a great portion of that unhappy class in this town, and the mere fact that a gentleman of Mr. Jiak Kim's knowledge of the wants of the place should bring forward a matter of paramount importance to his countrymen and women added weight to the address he had

delivered. In his address he had shown clearly the difference in the circumstances of the C.D.O. in England and in the Straits Settlements. There might or might not be room for argument in England, but he believed there could be but one opinion about the evil effects of the repeal of the Ordinance in this Colony. In a state such as ours things were very different, and the repeal of the C.D.O. was the most cruel and inhuman step ever taken out here. We were at present suffering from the effect of the action of a small band of sentimentalists who had used the present system of Parliamentary government to force on us that course, the evil effect of which was brought to our very doors. Nothing could be stronger than the medical evidence which they had before them; and he was informed that it was not only the opinion of the civil medical officers, but was also endorsed fully and conscientiously by those connected with the Government Hospitals. The last lines of the petition were, in his opinion, the most important of all; they said some remedy must be found by those responsible for the health of the community. He thought that part should be printed in large type. If they went on to examine what the effect of the repeal had been, he had been told that, not only here, but in the other Settlements, the number of admissions into pauper hospitals of sufferers from the foul disease would be *just double*, and large numbers more would go if there were room. Going to the troops, 15 per cent. were suffering; that meant that the Government were paying large sums of money as military contributions for a number of men who were simply a loss, in consequence of legislation forced upon us by the wish of the House of Commons. The motion had his entire sympathy in every way, and he congratulated Mr. Jiak Kim for the way it had been brought forward. But when he came to the resolution, he was met with a difficulty.

He had looked at the Act carefully—at section 56 which concerned the expenditure of money—and at 86 which made provision for bye-laws. In the former it was laid down that the Commissioners might vote money for "all matters necessary for or conducive to the public safety, health, or convenience." It might be felt that he was entirely wrong, and that the proposer and seconder read "public health" as in connection with that particular subject. Only a few days ago they had thought "convenience" had a very clear meaning, but upon it being brought to the test of a full court of appeal their case would not stand. It was therefore a little difficult to say—he fancied it was rather straining the sense to use the Municipal Funds for this purpose. Then coming to the clause about bye-laws—in spite of the extract from Parke's Hygiene and the petition they had heard read—it was straining the words of the Ordinance to class prostitution as a dangerous trade. If they passed the resolution in its entirety, they would have to do two things, vote money which would have to be approved by the Governor in Council. He was almost afraid he could see no hope that such a sum of money, under the instructions His Excellency had received, would be devoted to such a useful and beneficial end. Then the bye-law must be brought before the Governor in Council, and he might say that the opinion on the Executive Council concerning the effect of the repeal was divided, and that with such a division, and the instructions of the Secretary of State, he could see no hope of carrying it as a bye-law under the Ordinance. If the resolution had been formed in such a way that the Municipal Commissioners should take upon themselves the task of enquiring, collecting statistics, and making a report pointing out the urgent necessity of having something done with a view of a new clause in the amending Ordinance, he would immediately have voted for it. He was afraid under the conditions it was brought forward, much as he regretted it, he felt no beneficial purpose would result from the resolution, and no good could be got out of it. He would therefore have to record his vote against it.

The President (Colonel Dunlop) was perfectly satisfied that they had no power under the Ordinance to draw up bye-laws on that subject. He sympathised entirely with the object of the motion, and was convinced that the gravest injury was being done to the people of the place. At the same time he did not think that by any side wind would it ever be possible to restore the condition of affairs as they were prior to the repeal of the Contagious Diseases Acts.

THE CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY.

The first meeting of this newly-formed Society was held at Paris, on September 30th, under the presidency of Sir Spencer Wells, one of the honorary presidents. Among those present were: The Hon. Alan Herbert, M.D., Dr. Faive-Miller, Dr. Thomas Suin, and Dr. E. Warren-Bey, all of Paris; Dr. Sandwich (Cairo); Dr. Stanley M. Rendall (Aix-le-Baines); Dr. St. Clair Thomson (Florence). A dinner was given in the evening at the Grand Hotel. The invited guests were: Dr. Worms, of the French Academy of Medicine; Dr. Schuteliz, of Homburg; Dr. Macey, London; Dr. Dean, Dr. Sœwenberg, and Dr. Landolt, Paris, with Dr. Norris, of New York, and Dr. Rogers, of Illinois. After the usual toasts had been duly honoured, "Success to the New Society" was given, to which the Hon. Alan Herbert, M.D., responded. The health of Sir Spencer Wells was proposed by Dr. Faive-Miller, and Dr. Dufrey gave the invited guests.

THE FRENCH CONGRESSES.

The great exhibition is now closed, but it has left not only pleasant memories, but useful records behind it, and not the least of which are to be reckoned the transactions of the numerous congresses in connection with medicine which have been held. The French have a talent for organisation, and the hospitality extended to foreign guests has been both generous and thoughtful. The Congress on therapeutics was most successful; whilst the records of the one on medico-legal matters is also worthy of mention. There is much divergence of opinion as to the value of these meetings, but there can be only one opinion on the necessity of encouraging the *entente cordiale* between scientific workers in different countries. Personal contact with workers in the same field is magnetic in its action. Science knows no country. These gatherings all meet on a common platform.

HELOAN.

Heloan is the name of an Egyptian thermal station which has been developed by his Highness the Khedive, and it would appear from the *Bosphore Egyptien* that it is a little Paradise, but Paradise was not perfect, and Heloan also suffers. What makes Heloan imperfect? There is no doctor. Some might be inclined satirically to remark that Heloan ought to be congratulated on this, but the Heloanise evidently do not think so. The *Bosphore Egyptien* tells a few cases where the presence of a medical man would have saved a few lives. Another grievance is that though there is an excellent pharmacy, with a resident pharmacien—a state official—no medicines can be obtained. This requires explanation. There is a medical man appointed by the administration, but this official does not live at Heloan all the year, and the pharmacien does not dispense any medicine unless it is advised by the official physician. These statements appear almost incredible, perhaps there may be some explanation for them.

A NEW CURE FOR INSOMNIA.

THE *St. Louis Globe Democrat* says, "The abuse of the eye is the crime of the age. I am prepared to demonstrate that at least nine-tenths of the prevailing sleeplessness of which we hear so much is due to nervousness directly traceable to the optic nerve. We are wearing our eyes out over books, and desks, and types, and the effect shows itself, not only in the organ itself, but in its retrospective effects on nerve and brain. Take a soft cloth—say a piece of napped towel—and fold in it two small pieces of ice at a distance apart to exactly cover the eyes when the cloth is laid across them. Then lie down, adjust the cloth with the ice over the closed eyes, and you will be asleep in a very short while.

STRYCHNINE IN THE TREATMENT OF DIPSOMANIA.

A RUSSIAN physician has, for some time, been using strychnine as a preventive of the drink crave, and he reports most favourably upon its use. This is such a very simple remedy that it should be soon placed out of dispute whether it has any value. There are but too many patients upon whom to test the poison, and we believe there is no reason to fear that strychnine will be abused as much as morphia and chloral have been, or that we shall have in place of dipsomania strychnomania.

ST. MUNGO'S.

GLASGOW has been very much disturbed over the elections at St. Mungo's. We allude, of course, to the medical section of the city. It is the old story of the Outs and the Ins, the latter being perfectly satisfied with the mode of election and with its results. The Outs on the other hand are indignant, and as Glasgow has been noted for the purity of its medical elections, and as the Outs were never guilty of buying professorships or selling them, they are all the more shocked, and some of the medical journalists have been expressing their woes in ink. Our verdict would be so far as the claims to purity of election are concerned, *arcades ambo.*

A STRANGE CASE.

The Hammersmith Advertiser contains the account of an inquest held upon the body of a woman who died from taking prussic acid, at the house of a chemist with whom at one time she had cohabited, and the poison seems to have been taken in a frenzy of jealousy. She lived for forty minutes after having taken the poison, and the chemist made no attempt to treat her himself or to send for medical aid until shortly before death occurred. When asked by Dr. Alderson, who had been sent for, why he had not sent earlier, the chemist replied, "*You forget I am partly a medical man.*" This was followed by the natural remark—"What have you done for her? Your medical knowledge must have told you that promptness was important. Forty mimutes is a long interval." People are too apt to run to chemists for medicine and to prescribe for them; they should remember that the chemist is a mere dispenser and vendor of drugs, and has neither the knowledge nor the right to prescribe them in addition. The chemist showed how little of a medical man he was, or how little he knew about things, when he could let a woman linger on for forty minutes after having taken a dose of prussic acid without attempting any treatment. Notwithstanding the fatal nature of the drug there would have been a great chance, the woman surviving for over half an hour, that with prompt treatment she might have recovered. The Coroner's jury returned a verdict of "death by misadventure."

SCALES OF FEES.

We publish in our correspondence columns the scale of fees suggested by Dr. Rentoul. It must be remembered that they are merely suggestive, and that criticism is invited. Operations in private practice are rare, because the patients can so readily enter the local infirmaries. A system of low fees for small surgical operations might induce the working classes to have the operations done at home. This is a tentative matter.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. KESTEVEN, M.D.

An Interesting Case of Stone in an Infant æt. Sixteen Months. By C. E. Todd, M.D., Assistant Physician to the Adelaide Hospital (*Australasian Medical Gazette*, August, 1889).—On the afternoon of May 16th I was called to see a child æt. sixteen months. The mother told me that he had passed no water for upwards of twenty-four hours, and that he was in great agony. On examining his abdomen I found the bladder distended up to the umbilicus; its shape could be clearly seen through the bulging abdominal walls. The child was struggling and straining violently, and a few drops of urine were dribbling away every now and then. The mother took him at once to my house, and with some difficulty I passed a No. 4 silver catheter, and drew off three pints of water. Just as the catheter passed into the bladder it struck against a stone. I was unable at this time to pass a sound, because the child had a very light prepuce, and I could not get the point into the urethra. On May 18th I had everything ready to do lateral lithotomy. I slit up the tight foreskin, and enlarged the urethral orifice to allow the sound to pass. I introduced the instrument half an inch, when it struck the stone firmly wedged in the urethra. I removed it with the scoop of an ordinary director. The calculus was a uric acid one, with a slight phosphatic deposit, of an ovoid form, and the size of a large pea. This case seems to me of interest, (1) because the child had no symptom whatever until complete obstruction came on; and (2) because, looking at the stone afterwards, one would not have thought it possible that so large a body could pass along the urethra of so young a child. The stone must have passed along the canal in a very few hours, because I sounded a second time on the afternoon of May 17th, and it was then in the bladder.

Medicine in Japan.—The editor of the *Australian Medical Gazette* gives the following notice of the journal of the Sei-I-Kwai, or Society for the Advancement of Medical Science in Japan. It is published monthly, one half being printed in English, the other in Japanese; an index for both parts is printed with each number in English. It is a most interesting publication, and no number is issued in which some article is not published in English, which is of special interest to medical practitioners of all countries; some of these articles are by European or American members of the society, but the majority are by Japanese practitioners possessing European qualifications. The society is managed by a committee, of whom six are Japanese, and three European or American gentlemen, the president being Kanehiro Takaki, F.R.C.S. Eng., Director General of the Medical Department of the Japanese Navy. The reports of discussions which take place at

the meetings of the society are most interesting, and show such high professional acumen on the part of the practitioners taking part in them, as to be a worthy example to similar societies in these colonies. Of the value of the Japanese portion of the journal we, unhappily, not possessing erudition in that language, are only able to judge by the titles of the papers read, subjects discussed, or cases reported; but from this it is manifest that the Japanese practitioner is possessed of high intelligence, and has an appreciative love for his profession. We have now before us the numbers for April, May, and June of this year, and each Japanese portion contains upwards of a dozen original articles, reports of cases, and discussions on medical subjects. Amongst them, in the April issue, appears "Report of *post-mortem* of a case of Stricture of the Duodenum, by Y. Sanayoshi, F.R.C.S. England." "Treatment of Cancer by Ozone Water." "Phthisis from House Sweeping." "Intubation of the Larynx." Also an extract from the *Government Gazette*, "Regulations relating to Apothecaries and to the Preparation and Sale of Medicines."

In the May issue, we find, under "Proceedings of the Society," discussions on "Ulcer of the Leg," and on "Erysipelatous Vitiligo," with papers on "Clinical case of Aneurism with Autopsy," "Efficacy of a Lotion of Antipyrin in Suppuration of the Anterior Chamber," "Treatment of Cholera." In the same number are, under "Proceedings of Society," discussions on "Ascites," and on "Disorder of the right Knee-joint," with papers on an "Examination of Oysters as to an Endemic Disease in Miura Gori, Uanagawa Ken," "Observations on Diphtheria," "Artificial Maturation of Cataract," and on "The Therapeutic Effect of Washing out the Stomach in Diseases of Infancy."

Our readers cannot fail to see that practitioners who feel such an interest in, and possess such knowledge of professional subjects as is exhibited by the foregoing examples, must be of high intelligence, and can only form part of a nation which possesses the attributes for national greatness. This is the more astonishing when we remember that thirty years since, with the exception of two or three ports, Japan was sealed against Europeans and their knowledge, and that all the progress which we chronicle has come about in the latter half of this period. The care which the Imperial Government of Japan takes for the protection of its people against ignorant pretenders in medicine is an admirable example to the Australian Colonies; and the present is an especially opportune time, there being, either before the Legislature or in contemplation, Bills for the regulation of the practice of medicine in four of the Colonies.

Case of Double Parotitis of a Reflex Organ (*Meditzinskïa Pribavlenïa R' Morskomü Sbozniküi*, April, 1889, p. 352, and *Journal of Laryngology*, October, 1889).—At a meeting of the St. Petersburg Naval Medical Society, Dr. Mïlonas communicated the following curious case: An exceedingly nervous and emaciated recruit, aged twenty-two, fell ill with a severe attack of right-sided croupous pneumonia. On the third day there supervened incontinence of urine, alternating with retention; while on the ninth there was developed a prostatic abscess, determining a complete prolonged retention, and necessitating catheterisation. The latter proved to be extremely difficult, since, on one hand, any attempt at introducing the instrument into the urethra gave rise to general clonic convulsions; while, on the other, the end of the catheter deviated from the urethra into the prostatic abscess. Several hours after these repeated and prolonged manipulations there suddenly appeared rigor and pain about the right temporal region, which were swiftly followed by intense swelling of the corresponding parotid, rapidly passing into suppuration. The patient's micturition being at the time restored, no catheter was used for the next six days. On the seventh, however, another prolonged attack of retention of urine took place, and the catheterisation was again resorted to. It was most rapidly followed by the development of a left-sided suppurative parotitis. The patient ultimately recovered, though but very slowly. Analysing his case, Dr. Mïlonas comes to the conclusion that on either occasion parotitis was caused in a reflex way by the said intense irritation of the patient's genito-urinary tract.—During a discussion Dr. Balinsky adduced three similar instances of reflex parotitis from his own practice, all referring to women. In one of the patients, who had undergone some operation for vesico-vaginal fistula in the morning, the subsequent insertion of a catheter *à demeure* was followed at night-fall by swelling of one of her parotids. In another, suffering from uterine flexion, the introduction of a sound into the womb gave rise on each occasion to a rapid painful enlargement of the gland. In the third, parotitis developed shortly after the amputation of the womb, preceded by the introduction of a catheter into the bladder.

A Photographic Study of the Laryngeal Image during the Formation of the Registers of the Singing Voice (*Journal of Laryngology*, October, 1889).—This paper is an attempt on the part of Dr. French, whose industry as a laryngeal photographist, is so well known, to clear up the vexed question of the vocal registers. The conclusions that he draws from hundreds of photographs of the larynx in the act of uttering certain notes are as follows:

1. That protrusion of the tongue does not alter the laryngoscopic appearances.

2. That in the female there are three registers. This renders two changes necessary in the mechanism of the vocal cords, which changes are always accompanied by changes in the quality of the voice. The lower break occurs at or near F sharp, treble clef, first space; and the upper break an octave higher than this note. The change of mechanism consists of a shortening of the vocal bands, an appearance of an increase in their tension, and a change in the shape of the chink of the glottis, and it is usually accompanied by a backward movement of the epiglottis. The change in the shape of the chink at the lower break consists usually of a wider opening of the ligamentous portion of the glottis, and partial or complete closure of the cartilaginous portion. At the upper break the chink may simply be reduced in length and width, or a part of the ligamentous and all of the cartilaginous portion of the glottis may be closed.

3. That in male voices possessing the falsetto range there are two registers; the change from the chest to the falsetto usually occurs somewhere between C sharp bass clef, first line above stave, and the F sharp above. The change in the mechanism consists usually of a sudden shortening of the vocal bands—though occasionally they are increased in length—an appearance of increased tension, and an alteration in the shape of the glottic chink. The edges of the vocal bands may be brought into opposition in front or behind, or both in front and behind, or the chink of the glottis may be open in its entire length, in which case the shape is altered, but the area of the space between the vocal bands is about the same as is necessary for the production of the note before the break. The falsetto notes are therefore produced by stop closure and change in the length and tension of the vocal bands, or by change in their length and tension without stop closure.

On Excision of Enlarged Tonsils. By L. S. Zisman, Irkütsk (Proceedings of the Irkütsk (East Siberian) Medical Society, 1889, p. 10, in *Journal of Laryngology*, October, 1889).—The author describes twenty-two cases of hypertrophied tonsils, observed by him during the last three years, and treated by excision, four of them referring to adults, the remainder to children aged from three to nine. In all the operation was made painless by previously painting the fauces with a 4 per cent. solution of cocaine. It lasted usually a few seconds, never longer than half a minute. For a few days after, the patients were made to frequently gargle their throats with a solution of chlorate of potash. In one of the cases a rather alarming hæmorrhage from the wound occurred several hours after the operation, which, however, was ultimately arrested by ordinary means. In the other cases, parenchymatous bleeding was invariably trifling. The after-course was apyretic, except in one case where, on the next day, slight fever occurred, which probably depended upon the use of an unclean instrument. Children are said to bear the operation "beautifully." The best instrument is thought to be Luer's tonsil guillotine, its advantages being: (1) It permits the operator to act with one hand, while the other is occupied with depressing the tongue by means of a rectangular spatula; (2) Its fork drags the gland into the ring before the excision (and not during the latter, as in other instruments of similar kind), which enables the operator to remove the gland most thoroughly; (3) The instrument can be easily taken to pieces, which allows it to be kept in the most cleanly condition.

Full and Final Failure of Pasteur's Rabbit-killing Virus.—The following appeared in the *Standard*, of September 2nd, 1889:—"After more than two years of investigation, the International Rabbit Commissioners have issued their report. About 1,400 schemes for the destruction of rabbits were brought out by the offer of £25,000 by the Government of New South Wales; but not one has been deemed satisfactory. The chief interest centred in M. Pasteur's plan of spreading chicken cholera among the rabbits, and great hopes were entertained of this method. After many test experiments, however, it was ascertained that while the virus of the disease when given to rabbits in food proves fatal, the affected animals do not infect others. Under these circumstances, the Commissioners prudently decline to recommend the dissemination through Australasia of a disease unknown in the Colonies, but which is disastrously epidemic among fowls in some countries. The report discusses the evidence as to other similar plans, and concludes that there is no known disease communicable to rabbits which would, by dissemination, prove extensively destructive to them, without risk to other animals. The Commissioners fall back on the old remedy of erecting rabbit-proof fences, the wire netting to be at least three feet high, with five-eighth inch meshes. This they would make compulsory, together with the

destruction of rabbits by occupiers of land, and by the State on land not occupied. A Bill has already been introduced to carry out the recommendations of the Commissioners in Victoria."

Classification of Disorders of Speech. By Dr. Chervin (*Le Progrès Médical*, September 28th.)—Dr. Chervin, at the International Congress of Otology and Laryngology, held in Paris, submitted a table giving a classification of the disorders of speech. Speech, Dr. Chervin observes, depends (1) on the formation of ideas and words; (2) on the coördination of ideas and their transmission; (3) the articulation of words by the phonetic organs. A corresponding group of disorder attends each of these physiological terms: 1. Disorder of thought may be permanent, due to mental disease, or transient, as in anger, etc. 2. Disturbance of coördination, and of the transmission of ideas, are divisible into those with or without organic lesions; in the first group he placed agraphia and aphemia; in the second, stammering and spluttering. 3. Disorders of articulation were arranged according as the defects were seated in the palate; due to hare-lip, or to disorders independent of organic defects—*e.g.*, lisping, etc.

Exalgine. By Dr. Hepp, of Mulhouse (*Le Progrès Médical*, 28th September). MM. Dujardin-Beaumetz and Bardet have recently called attention to the analgesic properties of this substance, as demonstrated by M. Brigonnet, in order to indicate its special action. It was discovered in 1874 by M. Hofman, and termed by him *Méthylacetanitide*. Dr. Hepp has noted its effects during two years, and regards it as a febrifuge or antifebrine in doses of 0.25, beyond which dose it produces vertigo, with loss of consciousness. These symptoms, however, are reported to have rapidly passed away. Exalgine is also reported to be of service in neuralgic affections.

On the Diagnosis and Treatment of Obstructions of the Eustachian Tube. By Dr. Saurez de Mendoza (International Congress, Paris, 22nd September, *Le Progrès Médical*).—The author recognises:—1. Catarrhal obstructions, permanent and transient. 2. Organic obstructions or permanent contractions. These latter are much more common, Dr. Mendoza observes, than is generally supposed. For the purposes of diagnosis the author uses whalebone bougies, graduated for the purpose of indicating the seat of the narrowing of the passage. The bougie is marked in tenths of a millimetre. Dilatation is practised intermittently or continuously, and may be completed in from eight to seventeen or more sittings, varying with the extent of the contraction.

The Use of Menthol in the Upper Air-Passages. By Dr. F. H. Potter, Buffalo, N.Y. (*Journal of Laryngology*, October, 1889).—The drug controls superficial inflammation; that it is an analgesic, and second application can be made in increasing strength without discomfort; that it is destructive of some of the low forms of life, especially the bacillus tuberculosis, and that it is a valuable antiseptic in nasal surgery. It has an important place in the treatment of atrophic conditions. It can be used in strength of from one to fifty per cent., dissolved in oil. The oleum petrolia the author considers the best for the purpose of dissolving the drug. It can be applied directly by cotton application, or by means of the spray, or by vaporisation. The direct method answers best in the pharynx, the spray and vapour for the nose and larynx. Five cases of laryngeal phthisis following upon disease of the lungs were also reported, in which the menthol treatment gave satisfactory results, the local conditions improving rapidly under its use.

Menthol in Laryngeal Phthisis (*ibid*). By Dr. Chas. H. Knight, of New York.—Twenty cases, most of them of a severe type, treated with menthol applications, furnished the author ground for believing that this is a valuable agent in tubercular laryngitis. The drug was dissolved in fluid cosmolene in the proportion of a drachm or a drachm and a half to the ounce, and applied by means of a laryngeal syringe, or in the form of spray, by a nebuliser or vaporiser. In nearly all cases the subjective symptoms and the local appearance improved. In no case did complete healing of an ulcer take place. In this respect the author's experience does not bear out the representations of Rosenberg and others. Three propositions are offered: (1) spontaneous cure of a tubercular ulcer of the larynx may occur; (2) a simple erosion or ulceration may be mistaken for a tubercular ulcer; (3) the best results from local treatment of the larynx may be expected in cases of incipient or limited pulmonary disease, and in primary laryngeal tuberculosis.

The Nature of Ozæna, and some Remarks on Epithelial Metaplasia. By Schuchardt, Stettin (*Volkmann's Sammlung Klinischer Vorträge*, No. 340, in *Journal of Laryngology*, October, 1889).—The author is not satisfied with the conceptions of the nature of ozæna at present put forward by different authors. He originates a new theory of the cause of the fœtid odour of this disorder, and it must be said that his views are very convincing. He says that it is always the case that if cylinder epithelium is changed into plastic epithelium the secretion of a mucous membrane becomes fœtid. Thus old otorrhœas and catarrhs of the uterus give a fœtid secretion. He has found microscopically that the nasal mucous membrane of patients with ozæna is rich in plastic epithelium, and he also finds it in the secretion. It is possible that the fœtid nature of some cancroids of the mucous membranes and bronchitis putrida can be explained in the same manner.

A New (?) Treatment of Measles and Whooping Cough. By Dr. Cohen (*Journal de Médicine de Paris*, September 29th.)—Dr. Cohen observes that the danger in measles and whooping cough lies in the complications which attend these diseases—*e.g.*, bronchitis and pneumonia, and which may be coincident with the appearance of the eruption on the skin and on the mucous surface of the bronchi and pulmonary vesicles. The broncho-pneumonia secondary upon measles or whooping cough will occur either from want of judicious treatment, or from the carelessness of the patient. The novelty of treatment proposed by Dr. Cohen consists in keeping the patient in a warm room, and administering repeated full doses of acetate of ammonia. This medium, Dr. Cohen urges, is eliminated by the lungs and destroys the microbes. The same journal contains the account of a plan of treatment of whooping cough (by Dr. Leblond), consisting in the vaporisation of resorcin, by the heat of a spirit-lamp, every two hours, night and day.

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

Diabetic Coma. Dr. Gaston Lyon (*Revista de Ciencias Médicas*, Barcelona).—During the last few years the subject of diabetic coma has been very laboriously investigated, especially in Germany, and its pathology determined with highly probable exactness by the researches of Kussmaul. Nevertheless, the primary source of the insensibility is still an object of theory and research. The doctrine of acetonæmia, which has been so generally accepted, is not founded, it seems, on irrefragable data; the perchloride of iron test, so often relied upon as proof of its existence, and the apple-odour of the breath being neither exact nor conclusive; for the former, although it is a pretty clear indication that acetone *has been* present, is really no test at all of its existence when that reagent is used. Iron is chemically so eputhematous, is reddened in so many reactions, that all cases reported as acetonæmia on the evidence of this most common of tests alone are quite untrustworthy. And the latter may be often perceived when the presence of acetone cannot be proved, and when, in fact, we have tolerably clear evidence that it is not there at all.

Coma is most frequently seen amongst the younger victims to diabetes; Buhl gives one case at sixteen years, and Dreschfeld found 70 per cent. between the ages of twenty and forty years. And its fatality is very high: Frerichs reports that amongst 250 cases coma was the cause of death in 153. According to some authorities, this termination of the disease may be of our making. Pavy says that severe diabetes, if left to itself, terminates in tuberculosis; if treated, in acetonæmia. The checking of the excretion of sugar is not always evidence of its lessened formation; and Cohn has shown that this is itself toxicant if given in excessive quantities. He injected into the stomachs of several rabbits doses of forty grammes of sugar, with the result of inducing fatal convulsions in them all. And the use of opium in reducing the quantity carried off by the urine adds, at the same time, to the danger of the early supervention of death by coma.

The theories of the pathology of this condition may be arranged in two groups. In the first, that it is due to some structural alteration in the nervous system, in the kidneys, or the heart. And in the second, to the production of a poison by the anomalous fermentation of the glucose in the blood. The first theory has the initial difficulty that in the *post-mortem* room we do not find any lesion which can be definitely referred to the disease. There may be anæmia, œdema, or (*pace* Wilks and Moxon) congestion of the brain, sometimes sclerosis. Again, there may be found cerebral hæmorrhage, or softening, meningitis, or embolism. These may have caused the coma, but what caused them? Abeles has found in three cases, he says, an accumulation of glucose; but he does not seem to have determined if it existed in the serum there in greater quantity than in that of the body generally; if it did, it may have been—viewed in connection with the experiments of Cohn—really the *origo mali*.

In the kidneys, lesions more or less grave are frequently found: Griesinger detected thirty-two examples in sixty-four cases; whilst Dickinson found only two sound amongst twenty-seven; and Taylor, in two cases he examined, demonstrated marked fatty degeneration of the epithelium. It is doubtful, however, if we can fairly class these as the result of diabetic mischief; for not only may Bright's disease co-exist with it, but the profound cachexia induced by the diabetic

condition obviously predisposes to the development of the former. Therefore, whether we find necrosis of the cells of the looped tubes, or those of the medullary rays—which German pathologists called the lesion of Ebstein—or the hyaline degeneration of Armanni, it is clear that we have conditions which are not characteristic of diabetes, but of renal disease, which most commonly exist without the presence of glycosuria, and which have no necessary connection with it.

We must not reject, however, the evidence afforded by the experiments of Alberteni and Pisenti, who have produced albuminuria and alterations in the renal epithelium of dogs and rabbits, from the granular state to necrosis, by repeated doses of acetone, and which they have called "acetonic nephritis;" although, as we shall presently see, this agent has, in spite of its evil reputation, been given to human beings in large and continued doses without any apparent mischief whatever.

Griesinger, Burch, and Wunderlich have sought to assimilate diabetic coma with uræmia, since they observed such symptoms as anuria, vomiting, and diarrhœa preceding the coma in diabetics who were passing albumen as well as sugar, and when the autopsy disclosed the usual lesions of Bright's disease. But, besides the fact that the two maladies may exist together, it is quite possible to distinguish between the encephalopathia uræmica and diabetic toxæmia. Uræmia is accompanied with convulsions, which, except perhaps in the case of children, never accompany diabetic coma in human subjects; and there is a peculiar odour of the breath and urine characteristic of glycosuria, and never present in true uræmia. Eliminating the mixed cases, it is impossible to refer all the rest to the presence of urea from renal insufficiency; especially when oliguria is not the common accompaniment of diabetic coma, although we might expect that it would be so, for the irritation of the kidneys by the passing of the sugar and the degeneration of the tube cells due to it provide the very conditions which predispose to acute desquamative nephritis.

In the stomach and intestines there are alterations which Buhl compares to those of cholera; probably a kind of chronic dehydration of their walls. Fatty degeneration of the heart has been observed in several cases, and this may lead to a death by syncope, hardly to be distinguished, except by its suddenness, from coma.

Balthazar Foster states that the red cells of the blood are deformed, shrivelled, and dentated, in diabetic coma. Frerichs has never been able to find this during life. Probably both statements are correct; a drop of blood containing much sugar, and, therefore, with its specific gravity greatly raised, would by exosmosis very quickly shrivel the cells under the microscope, but they may be able to resist this deformation whilst alive. An excess of fat cells has been often found, with lipomatous deposits in the capillaries, especially in those of the lungs, and, it is said, have even been detected by the ophthalmoscope in the fundus of the eye.

The dehydration of the tissues both by the polyuria and the hygroscopic action of sugar—which absorbs water as salt does, although, as it is not deliquescent, not so greedily—is strongly insisted upon by Hilton-Fagge, Taylor, and Bouchard; and they suggest that this sugar-pickling of the brain may be the direct cause of the coma; and the experiments of Bohn again recur in connection with it.

If this be really the case, the most rational treatment would seem to be the lowering of the specific gravity of the blood by intervenous injections of water or very weak saline solutions. The author mentions this, however, only to deprecate it, since the dehydration of the tissues may simply be a *post-mortem* change, and not the cause of death.

The second theory supposes that the coma is due to auto-intoxication, and the agent generally believed to cause it is acetone. In its pure state this is a colourless liquid, with an odour recalling that of apples mixed with chloroform, is soluble in water and alcohol, boils at 56° C., and burns with a white flame. The tests for its presence are, first, the odour of the breath, which is misleading, then that of Lieben, which requires the urine to be distilled, and the distillate to be treated with iodine and carbonate of potash, to produce iodoform—which is fallacious—for alcohol gives precisely the same reaction.

The best is that of Legal: Add to the urine, diluted if it contain much sugar, a few drops of a solution of nitro-prusside of sodium, then caustic soda until it is strongly alkaline. A purple colour is developed, if acetone be present, which soon passes into yellow; then cautiously add with a pipette a few drops of strong acetic acid, so that the latter shall float above the alkaline solution; at the line of contact the liquid becomes carmine in tint, deep in proportion to the quantity of acetone present. The old perchloride of iron test is quite illusive. Pure acetone does not redden it, but it assumes this tint in the presence of diacetic acid, which is a derivative of acetone, and, therefore, as has been already mentioned, shows that it may have been present.

Brand was the first who noticed the apple odour of the breath. Peters, in 1857, confirmed it, and discovered acetone in the blood and urine. In 1860 Kaullich's paper was published, in which the production of this body was referred to the fermentation of sugar under the influence of a micro-germ—the *sarcina ventriculi*—with the by-products of alcohol, acetic acid and water. He mentioned, also, that he had found acetone in the urine of patients suffering from scarlatina and measles.

Kussmaul injected acetone in doses of from eight to ten grammes beneath the skin of animals, and obtained an artificial diabetic coma with the laboured respiration which is one of its characteristics. But he found, at the same time, that its administration to his hospital patients in repeated doses of from four to six grammes seemed to occasion them no inconvenience whatever. He explained this discrepancy by the theory that the human system, at first unaffected, became gradually intolerant of the drug, most evidently so in men of debilitated constitution.

In spite of this difficulty, the opinions of Kussmaul were almost universally accepted, and may be thus formulated: (1) An odour resembling acetone can be constantly detected in the breath and urine in cases of diabetic coma. (2) That it is produced in the stomach by a combined alcoholic and acetic fermentation. (3) That the symptoms of the above state can be simulated by the injection of acetone into the blood. In 1883, however, doubts were thrown upon the accuracy of these statements by Frerichs, who made an extensive series of experiments upon men and animals to test their reliability. He found that acetone could be freely administered to the former in large doses, with no particular result beyond drowsiness, and that although animals were injuriously affected by it, in no instance were symptoms identical with diabetic coma produced. He found, too, that it could be detected in the urine of nearly all patients suffering from acute pyrexia.

Jaksch, in a series of important papers,[1] showed that acetone is a physiological product from the decomposition of albuminous substances belonging to the body itself, that it is a constant accompaniment of pyrexia, some forms of carcinoma, of hepatic cirrhosis, and pyæmia. In diabetes it is always present, in small quantities in the slighter cases, and larger in the more severe. It is in these latter that the urine is reddened by perchloride of iron, and which he showed was due to the presence of diacetic acid, and not to the acetone it accompanies. He found it in the urine of 130 patients suffering from various forms of fever. But he introduced an unfortunate source of error by relying upon Lieben's test, which gives the same reaction with alcohol, and which greatly detracts, therefore, from the value of his laborious observations. This was avoided by Penzold (*Arch. of Klin. Med.*, 1884), who used nitro-benzaldehyde, which, in the presence of acetone, gives a deposit of indigo blue. He found that although commonly produced during pyrexia, it was not universally so, and reverted to the older idea of its action in producing diabetic coma.

Dreschfeld experimented largely, both on the sick and the healthy, with the result that the acetone had little effect on either. He took twenty grammes himself, with only the inconvenience of a headache, and could find but a trace in the urine, the greater part being eliminated by the lungs. Administered to diabetics, it simply made them sleepy, *but the urine contained it for several days afterwards.* Patients suffering from hepatic cirrhosis showed the same peculiarity. It would seem, then, that although it is eliminated by the lungs, it has to previously undergo some change in the liver, and this explains why the peculiar odour of the breath is not that of acetone, and why any profound disease of the liver delays its escape, and therefore increases its physiological effects. If produced in the system by the metabolism of albuminous tissues, and with a deranged liver hindering its escape, it may readily convert the "sleepiness" of the above cases into fatal coma; while the profound changes (eminently abnormal) which lead to its formation must be another factor of danger, increasing *pari passu* with its own production. As there is so much doubt as to the *rôle* of acetone, it has been suggested that its colleague, diacetic acid, may be the more active. But the experimental results run in much the same groove. It seems to have little action on the healthy; but when, from some failure in eliminative function, it is retained, then analogous mischief ensues.

There remains the most recent theory—that of acid-poisoning. This was propounded in a paper by Walter in 1877 (*Arch. f. experim. Pathol. und Therap. Berlin*), but attracted very little attention at the time. He injected into the stomach of various animals now phosphoric, then hydrochloric, or salicylic acid, in doses of seven to eight decigrammes to each kilo of their weight twice a day. He noticed a remarkable and corresponding reduction in the amount of alkali in the blood, and that a small increase in the dose of acid was speedily fatal to rabbits. The dog, however, seemed little affected by it; but it was noticed that an increasing amount of combined ammonia appeared in the urine: in other words, the dog could resist the poisonous action of the acid, because he possessed the power of secreting sufficient ammonia to neutralise it, which the rabbit does not seem to be provided with.

(*To be continued.*)

[1] *Ueber Acetonurie und Diaceturie, Berlin*, 1885.

III.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

Ergot of Rye in the Night Sweats of Syphilis (*Journal de Medicine de Paris*).—The best drugs for the prevention of the profuse night sweats of phthisical patients are, according to Dr. Pouchard, sulphate of atropine, white agaric, and phosphate of lime. But there are cases in which the perspiration is so abundant that waste of tissue and debility ensue, and all remedies have hitherto seemed powerless. It is in these obstinate cases that ergot of rye often proves of great value. One gramme of powdered ergot should be given at bedtime, or better still, half an hour before the sweat commences, and if necessary the dose may be repeated in two hours. The treatment should be persevered in for three consecutive nights, and the perspiration will be checked after the first or second day, the good results often continuing for one or two weeks. A subcutaneous injection of ergotine may be substituted for the ergot.

Emulsion of Vaseline with Water (*Journal de Medicine de Paris*).—Water and vaseline have until quite recently been considered incompatible, but Dr. Krebs has accidentally hit upon a method by which ointments may be prepared containing vaseline and aqueous solutions. It suffices to add two drops of castor oil to each gramme of aqueous solution in order to prepare with vaseline a perfectly homogeneous ointment. The chief disadvantage of vaseline being thus removed, its use will become more general in the preparation of ointments containing iodide of potassium and other unstable salts.

Senile Epilepsy (*L'Union Médicale*).—Under this title Dr. Crocq, of Brussel, describes a variety of epilepsy to which the aged are liable, and which is often mistaken for cerebral congestion. It is caused by chronic endo-arteritis of the basilar trunk. The attacks usually commence at the age of about seventy-six, often occur frequently, and may terminate in cerebral hæmorrhage or ramollissement.

Albuminuria in Typhoid Fever (*L'Union Médicale*).—Dr. André, of Toulouse, thinks that albumen always appears in the urine of typhoid patients, especially during the earlier stages of the disease, and as this is a constant symptom it becomes an important factor in arriving at an early and correct diagnosis.

Hypnotism in Confinements.—Dr. Fanton, of Marseilles, claims to have obtained through means of suggestion absolutely painless confinements. Once when he suggested to a patient that she was not to have any pain, she misunderstood him to mean "do not have any uterine contractions," and the result of her mistake was that she continued in labour four days.

Treatment of Orchitis (*L'Union Médicale*).—Dr. Dupan, of Toulouse, applies iodised cotton-wool to the scrotum. He has treated a hundred case of orchitis more or less serious in this way, and has invariably obtained a considerable remission of pain within twelve hours, and the disease has been cured in about eight days. If the treatment is commenced early enough, a cure may be anticipated in about three days. The induration of the epididymis disappears in about a fortnight.

Danger of Laparotomy performed by Gas Light (*Gazette de Gynécologie*).—Zweifel has observed on several occasions when laparotomy has been performed by gas light, that not only the patient, but even the operators experienced a slight roughness of the throat, especially when the operation was a protracted one. Several patients who had undergone operations at the Gynæcological Clinic at Leipzig, in which this roughness was experienced, subsequently developed catarrhal pneumonia. A patient, who had completely recovered after operation, afterwards succumbed to this pulmonary inflammation. The cause is sufficiently obvious. The chloroform becomes decomposed by the light of gas or petroleum; the smell of the products of this decomposition has sometimes become so pronounced that it has been thought some material was burning in an adjoining chamber.

Bromide of Ethyl as an Anæsthetic (*La Semaine Médicale*).—When operations of little importance, and of short duration, are needed, there is a reluctance to administer chloroform, owing to the mishaps which sometimes result therefrom; and although it may be urged that these mishaps are comparatively rare, there are other drawbacks which render it unsuitable for minor surgery. According to recent experiments of Dr. P. Eschricht, of Costin, we have in bromide of ethyl (bromethyl or bromidised ether) an anæsthetic, which can be easily administered, and might in many cases be advantageously substituted for chloroform. This is no new discovery, for it has been employed by Nunneley and Richardson, but it seems to have been rather neglected of late years until again brought into notice by Asch. Bromide of ethyl is a clear liquid, without colour, and having a smell which is not at all disagreeable, so that patients inhale it without any repugnance. After a few deep inspirations the first symptoms of anæsthesia appear, the face and cheeks flush, and a slight perspiration appears, the eyelids close, and in a short time insensibility is complete. Occasionally the patient seems to retain some degree of consciousness, but nothing is remembered on awakening. The advantages of bromide of ethyl are, according to Dr. Eschricht (who has used it very frequently), as follows: There is no danger; anæsthesia is very rapidly induced; there are none of the unpleasant after-effects of chloroform. The only inconvenience is that the breath has a disagreeable smell for a day or two after its administration. It is however, evident that it is only suited for minor operations, as anæsthesia cannot be long maintained. It should be known that bromide of ethyl is readily decomposed by light, and that it should be kept in a coloured glass bottle, hermetically sealed. Care should be taken to secure a very pure drug, of a specific gravity about 1.471. Bromide of ethyl is administered in the same manner as chloroform.

Poisoning by Antipyrin (*La Semaine Medicale*).—Dr. H. Berger relates the case of a young woman, æt. twenty-two, strong and healthy, who took one gramme of antipyrin for violent headache. Shortly after swallowing the drug she suffered from a burning sensation at the level of the stomach, in the mouth and the œsophagus; also from angina and dyspnœa. The face was flushed and œdematous, the eyelids and lips swollen, and an abundant secretion of tears and saliva took place. On the following days the face continued to be slightly swollen, and pressure over the parotid and submaxillary glands was painful. It would appear to have been the result of an idiosyncrasy, as the same remedy obtained from the same source was administered to several other patients with impunity.

Treatment of Tuberculosis of the Testicle (*Annales D'Orthopèdie*).—It is the opinion of Dr. Verneuil that iodoform inhibits the development of tuberculosis, and his experience leads him to think that the removal of one testicle often gives an impetus to the disease which immediately attacks the other. He therefore reserves the extirpation of the testicles for cases in which the lesions are in an advanced stage. In less severe cases he prefers interstitial cauterisations, he searches out the nodules which he pierces with a pointed thermo-cautery. In the cavities thus produced he inserts a pencil of iodoform which is allowed to remain. He considers that this method of treatment gives satisfactory results, and rarely excites any increase of the diseased action. It also saves the testicle, or at least appears to do so, and many patients attach great importance to the preservation of their sexual organs. It is not uncommon for castration to be followed by suicidal ideas.

Iodoform in Chronic Metritis (*Journal de Medicine de Paris*).—Drs. Roux and Schnell, whilst admitting the value of curetting in certain cases of metritis, believe that a more simple treatment often yields good results. They recommend intra-uterine dressings of iodoform, and affirm that the treatment by iodoform has already given good results both in obstetric and gynæcological practice. There are two ways in which iodoform may be employed—in pencils and in injections. The pencils are prepared by incorporating the iodoform with a mixture of gum arabic, gum tragacanth, and butter of cacao, or gelatine. For butter of cacao the proportion of iodoform should be one in seven; with gelatine two parts in eight. The crayons prepared with butter of cacao are hard and brittle; those made with gelatine are soft and elastic. They are introduced into the uterine cavity by means of polypus forceps, directed by two fingers of the left hand in the vagina. The injections may be made by forming an emulsion of iodoform with oil or glycerine and solution of gum tragacanth. This emulsion can be injected through a sound by means of a Pravaz syringe. All instruments should be disinfected carefully by boiling them in water, or with a solution of corrosive sublimate.

Poisoning by Cocaine (*L'Union Médicale*).—Dr. Mattison records two fatal cases of poisoning by chlorohydrate of cocaine. A third has just been recorded by Dr. Montelli. A young lady swallowed, by mistake, five grammes of a solution of the alkaloid in water, containing a proportion of 30 per cent., equivalent to a dose of a gramme and a half. The facts observed at the *post-mortem* examination were as follows: 1. Persistence of rigor mortis of the inferior maxilla and joints for a much longer period than the extreme limit usually observed of rigidity. 2. Injection of the vessels of the encephalon and spinal cord. 3. Vesicular emphysema of the lungs. The heart had ceased to beat during its diastole, and the right ventricle was full of clot. 4. The intestines and mesentery were much congested, and all the splanchnic organs were gorged with blood.

Dangers in Medical Practice (*Lyon Mèdical*).—Two deaths of medical men have recently occurred from disease contracted in the discharge of professional duty. Dr. Cotard died from diphtheria, he having become infected whilst attending his daughter, although she happily recovered; and Mr. Victor Laboré, a medical student, contracted typhoid fever whilst attending his father, who died a few weeks before his son.

IV.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

Malarial Fever and Puerperium.—Dr. Valerius E. Krusenstern, of Tiflis, publishes an interesting paper (*The Trans-Caucasian Lying-in Hospital Reports for* 1889, p. 59) on malarial fever appearing in the course of the puerperal period, in which he argues that (1) malarial fever generally, its remittent form in particular, does not in the least retard the *post-partum* involution of the womb, the organ decreasing in its bulk, just as it does under perfectly normal conditions. True, several authors have described cases of uterine subinvolution in malarial puerperal women. The real cause in such cases, however, should be sought, not in malarial process or virus itself, but simply in an inter-current endometritis accidentally complicating the fever. (2) On the other hand, malarial fever manifests a very marked influence on the functions of the mammary glands, since the appearance of the disease in puerperal women is invariably followed by a striking decrease in the secretion of milk.

Iodine in Detached Retina.—At a recent meeting of the Societé Vaudoise de Médecine, Dr. Dufour, of Lausanne, read notes (*Revue Médicale de la Suisse Romande*, 1889, No. 6, p. 387) on three successive cases of detached retina in which he had tried a method of treatment, introduced by Dr. Schoeller, of Berlin. The method consists in injecting a drop or two of tincture of iodine into the vitreous body, in order to excite an adhesive inflammation. In every one of Dr. Dufour's cases, the injection was rapidly followed by a striking improvement of the patient's vision. The amelioration proved to be permanent, as the author stated at a subsequent meeting of the society (*vide ibid.* No. 9, p. 555). Such beneficial effects of the method are attributed by the author to the "tincture giving rise to a serous effusion, which replaces and fixes the retina to its normal position," which view seems to be supported by the fact that "in about five minutes after the injection, there can be discerned a white exudation pointing to a local action of iodine."

Congenital Absence of Womb and Vagina.—In the Polish weekly *Gazeta Lekarska*, No. 32, 1889, p. 643, Dr. Juljan (pron. Iülïan) Aleksa, of Ianovo, describes the following curious case, presenting several points of interest in both theoretical and practical regards. A healthy and strong, regularly-made, fair-haired, peasant woman, æt. twenty-eight, married eight years, consulted him for sterility and amenorrhœa, expressing at the same time her firm belief that everything could be made "all right by making a hole in her virginal membrane." According to her statement, eight years ago, having had no catamenia, but intending to marry her present husband, she had sought advice of an experienced practitioner who, after a careful examination, had declared that she had nothing wrong beyond an occluded hymen, and that "she will be promptly cured by marriage." The doctor's prophecy, however, had not been realised, amenorrhœa remaining as constant as ever, and no children forthcoming. Having patiently waited for eight years, she had ultimately consulted a midwife, who had confirmed the diagnosis of the said practitioner, and directed the woman to Dr. Aleksa, to have her "hymen cut through." On examination, the author found that the patient's breasts were well-developed, and the pubes, genital labia, clitoris and urethra quite normal. On separating the labia, however, the vaginal inlet proved to be occupied by multiple folds of a thickened mucous membrane, while just in front of the navicular fossa there was present a funnel-like depression which, by a forefinger slightly pushing the membrane backwards, could be easily transformed into a *cul-de-sac*, or a rudimentary would-be vagina, with an anterior and posterior wall. A deep puncture with a Pravaz's syringe failed to detect any fluid. Being still under the impression that he had to deal with a case of an occluded and thickened hymen, Dr. Aleksa proceeded with carefully making an incision into the supposed virginal membrane. No cavity, however, could be reached, even after the knife had penetrated full three centimetres deep. It was only then that the author became doubtful in regard to his diagnosis, and having plugged the wound with cotton-wool, decided to make a thorough manual and instrumental examination of the pelvic contents through the rectum and bladder, through either of them and the abdominal wall. Not a trace of the womb or vagina could be detected, the patient's internal genitals being represented only by rudimentary ovaries and apparently hypertrophied Fallopian tubes. Accordingly, to the woman's utter disappointment, he desisted from any further operative interference. A subsequent inquiry elicited that (1) the patient, though having constantly an intense sexual desire, never felt any slightest satisfaction or pleasant sensation from marital intercourse, and even was invariably quite ill for several days after every connection, and frequently fainted during the act. (2) Since her sixteenth year she had been suffering every month from menstrual molimina, such as general malaise, sacral and inguinal pain, dragging sensation about the pelvis, headache, intense tumefaction of the mammary glands, swelling in both groins, œdema of the feet, and hæmaturia. Whether the latter represented a vicarious menstruation, or was caused by some communication existing between the bladder and menstrually bleeding Fallopian tubes, is thought to remain an open question, which cannot possibly be settled otherwise than by a *post-mortem* examination.

[One should think that the very interesting point might be also elucidated by means of an electro-cystocopic examination during catamenial periods, as Dr. Aleksa would probably admit after the perusal of Dr. E. Hurry Fenwick's exceedingly instructive paper in the *British Medical Journal*, May 4th and 11th, 1889, p. 989, a detailed abstract of which may also be found in the Moscow *Meditzinskoïe Obozreniïe*, Nos. 15 and 16, 1889, p. 280.—*Reporter.*]

"Similia Similibus."—Under this title the Polish monthly, *Nowiny Lekarskie*, September, 1889, p. 485, relates the following amusing case, lately published by the *Gazette Médicale de Strasbourg* (1889, May 1st): A male patient, an habitual drinker, was recently admitted to a Strasburg hospital on account of ascites and œdema of his lower limbs in connection with hepatic cirrhosis. One tapping after another was made, but on each occasion the abdominal fluid speedily re-accumulated. On a fifty-second paracentesis, the man insisted on his having the liquid just withdrawn from his belly, and swallowed it at the spot. No re-accumulation took place since that day. "Provided the facts are correct," remarks the editor of our Polish contemporary, "the question arises, how are they to be explained? Should the cure be attributed to the effects of some 'suggestion?' or does the ascitic fluid contain some chemical constituents which up to the present have remained unknown to us?"

On the Diagnosis and Treatment of Chronic Urethritis.—Following Professor V. M. Tarnovsky's teaching, Dr. Alexandr V. Tzvïneff, of Riga (*Proceedings of the Riga Russian Medical Society*, 1889, p. 17), emphatically draws attention to an imperative necessity of determining a precise nature of morbid lesions existing in every individual case of chronic urethritis, such diagnosis being the only means for selecting a rational treatment. The most common lesions occurring in chronic gonorrhœa are these: (*a*) A catarrhal inflammation localised in deeper parts of the urethra; (*b*) papillary granulations resulting from hyperplasia of the mucous membrane; and (*c*) granular vegetations, or peculiar bloodless (or rather, vesselless) protrusions, the degeneration ending in atrophy of the tissues. Every one of the three forms is accompanied by a mucoid or muco-purulent discharge, and may lead in course of time to the formation of strictures of varying size. The stenoses of extreme degrees are usually recognised fairly easily. It is otherwise in cases of milder strictures, which frequently do not give rise to any marked symptoms beyond the so-called *goutte militaire*—that is, a morning-drop of discharge arising from inflammation caused by stagnation of the urine behind a narrowed spot. Without a careful examination, such slight strictures may be easily overlooked, and our treatment accordingly prove a failure, since such means as routinary injections are powerless to remove the lesions of this kind. In view of the facts, Dr. Tzvïneff recommends the examination of every patient suffering from *goutte militaire* by means of a large-sized catheter. If the latter failed to pass into the bladder, a stricture is present. If the instrument passes without any difficulty, one of the three lesions mentioned above must be suspected. The best means for establishing a differential diagnosis between the forms is undoubtedly afforded by an endoscopic examination. The latter, however, requires a considerable skill and special experience. In the absence of the conditions, the endoscope may be, to a certain extent, substituted for by a bulbous catheter. In such cases, where the introduction of the instrument causes a strictly localised pain, and is followed by a few drops of blood, either the *a* form or the *b* must be thought of. In the absence of the pain and bleeding, the cause of the urethral discharge is constituted, probably, by granular vegetations (the form *c*). The treatment varies according to the nature of cases. In those mentioned under *a* and *b*, excellent results may be obtained from injections after Guyot's methods. In cases of granular vegetations, cauterisation by solid nitrate of silver is indicated. Strictures are best treated by a systematic dilatation of the urethra with elastic bougies. The author adduces thirty-one cases of chronic urethritis treated by him during 1887; nineteen of them were speedily cured, but in twelve all means failed until a repeated examination elucidated the actual nature of the lesions present. In eight of the twelve slight strictures, and in four granular vegetations, were found. Under an appropriate treatment all of the patients ultimately recovered.

On the Prophylactic Value of Pulmonary Gymnastics.—Dr. Gaethgens, of Riga, points (*Proceedings of the Riga German Medical Society*, 1889, p. 547) to a great prophylactic value of systematically training the lungs. A thorough ventilation of the organs, more espe-

cially of their apices, requires a certain muscular strength, as well as an erect carriage of the body. Even in persons with a normally-built chest, an habitual defective respiratory action is followed in course of time by a permanent pulmonary weakness, and a decrease in the capacity of resistance towards any pathogenic principles finding their way into the lung. In subjects with an hereditary phthisic predisposition—that is, in subjects with a poorly-made chest, flabby muscles, and lowered power of resistance—the dangers of a defective respiration are still by far greater. In addition, in either of the categories, the dangers are not limited to a train of pulmonary diseases, but also include various anæmic or chlorotic disturbances, as well as nervous affections. Hence, the pulmonary gymnastics are of a paramount practical importance, and should be systematically resorted to in all children, and that at a possibly early age. In other words, every child's respiratory organs should be methodically trained by means of certain physical exercises, consisting mainly of steady and deep respirations in free air, the child standing or walking in a perfectly upright position. Once the habit of thoroughly ventilating the lungs has been firmly established by a training course of this kind, the child unconsciously or instinctively retains it for life. The author is about to initiate the gymnastic courses of this sort on a large scale.

On the Physiological Action of Sulphonal.—In the *Vestnik Obshtchestvennoi Highieny, Sudebnoi i Praktitcheskoi Meditziny*, July, 1889, p. 1-10, Professor Serghei A. Popoff and Dr. Vladimir I. Podanovsky, of St. Petersburg, publish a paper on their experimental researches concerning the physiological effects of sulphonal. The main results of the experiments (on frogs) may be summed up as follows:

1. Sulphonal acts in the first instance on the respiratory process, gradually retarding it, and when injected in large doses (0.02 gramme and more; 0.03 gramme doses prove almost invariably lethal in frogs), causing a complete arrest of breathing.

2. The drug powerfully inhibits voluntary movements, which is dependent solely upon its direct action on the motor centres (since both muscular and motor nerve irritability remains intact, even during the stage of a complete prostration preceding the animal's death).

3. It markedly depresses both tactile and pathic sensibility, acting on the peripheral nerve endings. On keeping the frog's leg in a 1 per cent. solution for from two to five minutes, the sensibility of the limb disappears tracelessly, while it remains normal in all other regions of the animal's body.

4. Sulphonal lowers the reflex action, which is mainly dependent upon its inhibitory effects on the spinal cord, but partly on its anæsthetic action on the peripheral sensory nerves.

5. The action of the drug on the cardiac muscle is relatively weak. Still, large doses produce a gradual retardation of the cardiac action, while lethal ones arrest the heart in diastole. The retardation and diastolic arrest seem to be caused by a direct action of the drug on the cardiac muscle and motor nerve apparatus.

[The authors' results can scarcely afford a conclusive evidence in favour of sulphonal's "freedom from any dangerous accessory effects," to which Professors Baumann and A. Kast have once drawn the attention of the profession.—*Reporter.*]

V.—PUBLIC HEALTH.

Case of Paralytic Rabies in a Patient Inoculated by M. Pasteur. Related by Dr. V. Rascol, with comments by Prof. Michel Peter, accompanied by the following letter to the Editor of the *Journal de Médecine de Paris:*

SIR,—I have the honour to submit to you, and to M. Pasteur at the same time, the following case, fatal after the anti-rabic treatment at the Pasteur Institute. I have thought it well to postpone this communication until the rumours attributing the death of Rascol to the preventive inoculations had subsided. The electoral excitement has sufficed for that; but, notwithstanding, there still exists an impression upon the popular mind that these inoculations are not free from danger. The opinions expressed by yourself in opposition to those of M. Pasteur, have determined Dr. Vergnard and myself to submit to you, for the elucidation of so grave a question, the following case, the importance of which is indisputable. The interest which attaches thereto, in point both of humanity and of science, is so great that the obligation should be imposed upon every physician to contribute to the elements of its determination.

Murat (Tarn), Sept. 25th, 1889. (Signed) VICTOR RASCOL, D.M.

The case is as follows:

During the month of February, 1889, the occurrence of numerous mad dogs was noticed. One of these bit several other animals of the same species. On the 20th February it bit two men and a horse. He attacked his first victim on the right leg. The bite traversed two pantaloons, and lacerated the cutaneous surface. The wound was healed by the end of twelve days. His second victim was a rural postal messenger, who was bitten on the right leg, through two pantaloons, of which the external were torn, while the marks of the teeth were left on the skin, which was grazed. A few drops of blood had oozed and formed coagulum.

The horse died on the 11th April, not having been seen by a veterinary. The symptoms, which were regarded as rabies, were violent agitation, rearing, and striking against the manger and rack.

The man first bitten experienced no ill effects. It should, however, be stated that he went a pilgrimage to the chapel of a saint who enjoys the special reputation of preserving from rabies.

The messenger was sent to the Pasteur Institute on March 6th. He began the treatment on the 9th, and continued it until the 23rd (fourteen days). He returned to his work on the 26th. On the 9th and 10th of April he was engaged at hard labour in the country, which obliged him to remove his waistcoat, though he felt the cold on his shoulders and body, in spite of which he continued his work until night. On his return home he experienced no effects from the cold. On the 11th April the factor Rascol, passing through the village of Montaigut, met the body of the horse being carried away that had been bitten on the same day as himself, and had died that morning. On this day Rascol experienced a greater sense of fatigue than on other days of his journey. From this time he became sad, morose, depressed. He lost his appetite and complained of severe headache. He took a dose of castor oil, which acted on his bowels and somewhat relieved his head. Nevertheless, the general feeling of malaise remained, with a sense of extreme lassitude, with tightness in the throat and difficulty in swallowing.

I was called to him on the afternoon of the 12th inst. His face was animated, and he complained of the sense of constriction in the throat, which, however, did not prevent his swallowing small quantities of vermilion and ptisan. The tongue was normal; the uvula was enlarged; the surface of the pharynx red and glossy as far as could be seen. He complained that his throat and mouth were coated with a thick mucus secretion, of which he could not free himself, notwithstanding that his efforts to do so provoked vomiting. He attributed to this mucus the difficulty of swallowing, but his family observed that he had always a very narrow swallow. The eyes were bright and fixed upwards, with a convulsive stare, and intolerance of light. Respiration normal, though sighing at times. Auscultation detected nothing abnormal in the respiratory sounds. The pulse was normal; the temperature also normal.

The patient complained of general debility, which rendered it impossible for him to turn in bed. He moved his arms and legs with difficulty. There was a complete loss of muscular power except in the heart, the beats of which were regular and possessed sufficient impulse. He complained of severe headache, and a feeling of indefinite pains in various parts of the body, *principally in those parts where the preventive injections had been practised.* The bladder was not distended, though on two occasions he was unable to void urine. General frictions were employed, with tincture of quinine and limiment de rosea; over the region of the bladder friction was made with camphorated oil; on the neck, with belladonna ointment; bromide of potassium was given in draughts.

Rascol related in detail his journey to Paris, and the treatment he had undergone in the Pasteur Institute. His recollections were not in exact accord with the card that had been given to him, and which he had forwarded to me. I carefully avoided alluding to the horse's death, and he observed the same course; nevertheless he was preoccupied. I took an opportunity, when speaking of his bite, to explain that "the dog's tooth having been wiped in its passage through the first pantaloons, and not having pierced the second pair, the bite could not possibly have transmitted anything."

I have omitted to state that the dog who had been examined *post-mortem* by a veterinary surgeon, who pronounced it 'suspected of rabies.'

On April 13th we saw the patient with Dr. Vergues. The face was more animated, redder, the eyes merry bright, directed upwards; the pupils were normal. Respiration difficult, sighing, but without any morbid sound. Pulse normal. Complete want of muscular power, except in the arms, which were moved with less difficulty. The lower limbs motionless and insensible. Not any painful point was to be found in the vertebral column. Difficulty in swallowing increased, the mucous secretion accumulated, and breathing and speaking became so much interfered with that it was not easy to understand what he said. A catheter drew off two litres of urine—pointing to paralysis of the bladder.

The same treatment was continued. The patient became the prey to most distressing ideas; during the night he had demanded the last rites of religion, and gave directions as to his funeral. On the 14th he died asphyxiated, about 6 a.m.

In what pathological category can we place this case? Must we admit a special factor in its etiology?

Here is my reply:

It is very evident that we have here to deal with a case of rabies. 1. The period of incubation is almost classical, forty-three days, on the assumption that the rabies was transmitted by the dogs; thirty-three days if the rabies had been given in the laboratory by a rabbit. 2. The outbreak of these accidents took place as the result of an acute motion (the sight of the dead body of the horse, bitten simultaneously). 3. There occurred the bulbar disturbances (of the pneumo-gastric and glosso-pharyngeal) of rabies.

This rabies was modified: 1. The phenomena of paralysis replaced those of convulsion (paraplegia, paralysis of the glosso-pharyngeal; finally of the pneumo-gastric with asphyxia). 2. Intelligence remaining unimpaired to the last. We have here the same phenomena observed in the unfortunate Reveillac, of Paris, in the case observed at Armeil, and in another case inoculated at Dunkirk, also in Née, of Arras.

Lastly, the sinster phenomenon which casts a lugubrious light on the question, the premonitory pains were not experienced at the line of the punctures as in the case indicated. Your patient then died, I do not hesitate to say, of rabies of the laboratory. Many other cases have passed undetected or misunderstood. Death has been attributed to some unusual neurosis, or to pneumonia; to pain at the points of inoculation; to rapid dyspnœa and asphyxia; to a still strange form of pneumonia without expectoration, and without fever. On the other hand, the indifference, the interest, or the fear of responsibility to be incurred by the physicians who have been weak enough to send persons bitten to the Institute, have all contributed to ensure silence, for a time, on this subject.

To sum up, we may say of the three subjects bitten by the same dog:

One, the horse, having no protection of clothing, died of convulsive rabies, contracted from the dog.

In the case of the other two, the bites were made through double clothing. Of these, one was not inoculated, and remained healthy seven months later. The other man, thanks to the care of the postal administration, was inoculated, and manifested the symptoms of paralytic rabies (the rabies of the laboratory), thirty-three days subsequently. The conclusion is self-evident.

P.S.—It is necessary in comparing Rascol's case inoculated and rabid (at the same time that his fellow sufferer was not inoculated, and did not become rabid), with that of [1] W. alone inoculated, and alone became rabid; while his companions, who were not inoculated, continued in good health. It must be observed, in aggravation of W.'s case, that the bite was inflicted through his garments.

(Signed) PROF. PETER.

The Spirit of the Societies.

West London Medico-Chirurgical Society.—This Society was opened by an address from the President (H. Campbell Pope, M.D.), which will be found at page 654.

Specimens were shown by Mr. Keetley of loose cartilages removed from two knee-joints, and a portion of a kidney crushed off by a waggon wheel, and removed through a lumbar incision.

Mr. Percy Dunn also showed some recent additions to the Museum of the West London Hospital.

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Obstetrical Society of London (A. L. Galabin, M.D., president). **A Contribution to the Anatomy of the Pelvic Floor.**—Dr. G. Ernest Hermann in this paper detailed measurements which showed the great normal variations in the conformation of the parts which formed the floor of the pelvis. He showed that projections of the pelvic floor varied from none at all to as much as two inches, and that in healthy multiparæ the distance between the coccyx and anus, the length of the perineum, the distance between the fourchette and the symphysis pubis, and the length of the vagina, were subject to wide variations. Dr. Hermann pointed out that since these variations existed in healthy multiparæ, peculiarities observed in parous women should not be assumed to be changes due to childbearing, unless it had been ascertained that they were not present previous to pregnancy. He next pointed out the clinical importance of these anatomical variations in their bearing on the liability to rupture of the perineum, and to prolapse, the adjustment of pessaries, and some forms of dysparennia and sterility were pointed out.

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British Gynæcological Society (Dr. Macan, president, October 9th).—This was the first meeting of the society after the recess.

Fibro-Cystic Tumour of Uterus.—Dr. Bantock showed a specimen of a tumour which he had removed, and he thought interesting from a pathological point of view. It had been in existence about eight years. It dragged on the uterus when moved. He had diagnosed fibroid of the uterus, probably with pedicle. When he opened the abdomen the appearance seemed to confirm this view, but on pressing with a finger he found fluctuation, and on tapping it he withdrew seven and a half ounces of fluid containing cholesterine. He found that it had a pedicle not at all connected with the uterus, and he thought it must be ovarian, a degenerated cyst for example. The pedicle was attached to the right broad ligament, at the corner of the uterus. The patient was a cook, single, and thirty-five years of age. He had operated on October 3rd, and she is now convalescent.

Epithelioma of Clitoris.—Dr. Edis showed a specimen which he had removed from a single woman, æt. forty-three. Two years before she had complained of severe irritation about the meatus urinarius, sometimes accompanied by pain on passing water, which, however, was not unduly frequent. During the last three weeks there had been a slight discharge from the growth. He caught hold of it with a pair of vulsella forceps, and then removed it in its entirety by means of a Paquelin cautery, being careful to avoid touching the tissues that were implicated. The hæmorrhage was nothing to speak of. The wound was stuffed with iodoform gauze, and the patient made a good recovery.

Adjourned Discussion on Dr. Dolan's Paper.—Dr. Bantock said he hoped that they had all a printed copy of it before them. He said that Dr. Dolan had approached the subject in a very philosophical spirit, discussing the matter, with one or two trifling exceptions, in manner devoid of prejudice. He then reviewed the views put forward by Dr. Dolan in diagnosis. Alluding to the author's expression, "that instrument of destruction the uterine sound," he said he could not conceive why Dr. Dolan had singled out the sound in this way, for he (Dr. Bantock) considered it a most valuable instrument for diagnostic purposes. Of course it must be used carefully and intelligently, but he would be very sorry to be deprived of it. When injury followed its use, the inference was that it had been used unskilfully or in improper cases. He did not agree with him in his condemnation of pessaries in the treatment of displacements, or at least some of them, although he says he is supported by some of the oldest gynæcologists in England and Ameriea. Dr. Dolan, however, confined himself to the treatment of flexions of the uterus, but he (Dr. Bantock) had always preached the doctrine that a pessary was no good in cases of flexion, however useful it might be in versions. If Dr. Dolan had been in the habit of treating flexions by means of vaginal pessaries, he could readily understand how he had arrived at his conclusions. He observed that it was really remarkable how little this subject was studied, for he might say with Dr. Dolan that he had had a great deal of experience in removing pessaries, but he had also some experience in applying them. A pessary was not intended to replace a uterus, but to retain it in position. He observed that Dr. Dolan seemed to favour some of the more risky operations which had been invented—removal of the appendages, shortening of the round ligaments, pereonorrhapy, etc. So far as the removal of the tubes was concerned, and in respect of the restoration of the perineum, he might be disposed to agree with him, but in his opinion shortening of the round ligaments was dangerous, and without effect on the position of the uterus, while the proposal to suture the fundus to the parietes was an idea which had not been ratified by experience. Passing on to discuss Dr. Dolan's remarks on the relations of specialists and the general practitioners, he recalled an instance in which a lady, who fully intended to place herself under his care, had consulted him, presenting a letter from her ordinary medical attendant with the previous history of the case. Finding the lady intended to remain under his treatment he consequently wrote to her medical man to that effect, and received in return a letter of violent abuse accusing him of having taken his patient, and asking him if he would consent to arbitration. To this question he replied that he would gladly submit to arbitration, and probably this satisfied the medical man, for he had heard nothing more from him on the subject. He pointed out that the medical man was entirely in the wrong.

[1] This case is reported in *Journal de Médicin de Paris*, 6th Oct., 1889.

Medical Miscellanea.

THE subject of our next illustration will be Dr. Freeman, Mayor of Bath.

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Mr. Miller, M.P., has given £2,000 to the Felixstowe Convalescent Home.

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A very handsome sum has been collected towards the funds of the Scarborough Hospital and Dispensary by a large number of ladies, who took charge of stands in the most prominent parts of the town.

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The proprietor of *Tit-Bits* has offered to distribute the sum of £10,000 among the hospitals of England if the average circulation of his journal for the year 1889 shall reach half a million copies weekly.

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Dr. Spottiswoode Cameron has been elected Medical Officer of Health for Leeds. He was for nearly twelve years Medical Officer of Health for Huddersfield.

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The muzzling orders are still imperfectly carried out. Some of the County Councils insist on having all dogs muzzled; others reject the order. Muzzling to be effectual should be universal.

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Female medical education at Edinburgh has received an impetus from the formation of an association for its promotion. It is supported by some well-known men in the profession.

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We regret to have to announce the death of Dr. Protheroe Smith, which took place on September 29th, at his residence, 24, Park-street, Grosvenor-square, in his eightieth year. Dr. Smith was the founder of the first hospital for women.

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Mr. Tom Mason, of Portwood, has left £3,000 to the Stockport Infirmary. Mr. D. Cullimore, barrister, has bequeathed £1,000 to the County Infirmary, Wexford; and the poor of the village of Taghmon, co. Wexford, have received £8,000.

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A public house map of the borough of Leeds has just been issued. There are 355 fully licensed houses, 422 beer houses, and 362 off-licensed shops, making a total of 1,139 houses and shops in which intoxicants are sold. The population is 350,000, and it is calculated that Leeds expends on alcohol £1,213,000 per annum.

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Dr. Hammond (Nuneaton) was presented on September 26th with an illuminated address and a purse of £100 guineas. Mrs. Hammond was also presented with a massive gold bracelet by a deputation of ladies, with an expression of regret at the departure of Dr. and Mrs. Hammond from the town.

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The first meeting of the Medical Society was held on Monday, October 21st. The Lettsomian lectures will be delivered during January by Mr. Edmund Owen, on subjects in connection with the surgery of infancy and childhood. The annual oration will be given by Dr. A. E. Sansom on May 6th.

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We regret to announce the death of Mr. Richard Power, which took place on October 2nd. Mr. Power was for many years the much respected officer of H.M. Convict Prison at Portsmouth. Two months ago he was promoted to the Governorship of Woking Female Convict Prison.

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The annual meeting of the medical officers of health was held at the Guild Hall, Worcester, on Saturday, Sept. 28th (Professor Corfield, president, in the chair). Dr. H. Swell read a paper on the "Actual and Probable Effects of Recent and Prospective Legislation upon Medical Officers of Health." Mr. Taylor (Liverpool), Mr. Willis Bond (Worcester), Dr. Strange, Sir H. Ackland, Dr. Mitchell, joined in the discussion. Dr. Whitelegge, Medical Officer of Health for the West Riding, read a paper on the "Best Means of carrying out the Notification of Infectious Diseases Act." Numerous speakers took part in the discussion.

The Northumberland and Durham Medical Society opened its session on October 5th with an address by Mr. Lawson Tait, the full text of which we publish at page 645, "On Ectopic Gestation." Dr. Murphy, Sunderland, is the president. After the meeting the members and guests (150) dined at the assembly rooms.

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We regret to have to record the following deaths after treatment at the Institute Pasteur:

CASE XIII.—J. B. Sattraux, of Bourgival, æt. fifty-four, bitten on July 5th, 1889; treated from the 5th till 26th July. Died of hydrophobia August 10th, 1889.

CASE XIV.—M. Claudel, Nancy, bitten July 8th, 1888. A year afterwards he felt at the place where the inoculations were made a kind of intense burning. Died of hydrophobia August 10th, 1889. The patient was attended by Dr. Jacob, of Nancy, and an autopsy was made by MM. Fellz and Baraban. Some rabbits were experimented on, which died on the thirteenth day after inoculation.—*Journal de Médicine de Paris*, October 6th, 1889.

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MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.—At the first meeting for the session, held on October 4th, the following gentlemen were elected office-bearers for 1889-90:—*President:* Dr. William Macewen. *Section of Medicine.—Vice-President:* Dr. J. Wallace Anderson. *Council:* Dr. Hugh Thomson and Dr. W. G. Dun. *Secretary:* Dr. Geo. S. Middleton. *Section of Surgery.—Vice-President:* Dr. David W. Knox. *Council:* Dr. W. J. Fleming and Dr. J. C. Renton. *Secretary:* Dr. John Barlow. *Section of Pathology.—Vice-President:* Dr. W. T. Gairdner. *Council:* Dr. H. Rutherford and Dr. Joseph Coats. *Secretary:* Dr. T. Kennedy Dalziel. *Section of Obstetrics.—Vice-President:* Dr. W. L. Reid. *Council*: Dr. M. Cameron and Dr. Samuel Sloan. *Secretary:* Dr. Lawrence Oliphant. *—Treasurer:* Dr. Henry E. Clark. *General Secretary:* Dr. Walter Downie.

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the EDITOR, "*The Provincial Medical Journal,*" *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16th of the month.

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

PROPOSED SCALE OF FEES FOR THE PUBLIC MEDICAL SERVICE OF ENGLAND.

FEES TO BE PAID BY WAGE EARNERS WHO ARE MAKING UNDER 45*s.* PER WEEK PER FAMILY, FROM ALL SOURCES. ALL PAYMENTS TO BE IMMEDIATE.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—The following scale is submitted to the profession:

MEDICAL FEES.—Visit at branch: 2*s.* for the first, and 1*s.* for subsequent visits during the same illness. or 4*s.* per week in advance for five visits (with or without prescription).

Visit at patient's home: from 11 a.m. to 6 p.m., 2*s.*; from 6 p.m. to 11 a.m., 5*s.* with or without prescription).

Consultation at patient's home before 6 p.m., 10*s.* 6*d.*; after 6 p.m., 20*s.* for each doctor.

Visiting a second, third, or fourth patient at the residence of the first patient treated, 2*s.* each for the first day visit, and half this fee for subsequent visits.

When the patient lives more than two miles from the doctor's residence, and when he has to visit at this patient's home, the doctor may charge the cost of cab for out and home journey.

	£	s.	d.
Remaining all night with a patient	1	1	0
Remaining with a patient after the first half-hour, per hour, or part of an hour	0	5	0

Not more than two visits a day to be paid to a patient unless he or his relatives request further visits to be paid.

LETTERS AND CERTIFICATES OF ALL KINDS.—2*s.*, exclusive of postage.

VACCINATION.—With human lymph, including subsequent inspection and filling up certificate, 2*s.* 6*d.*

With calf lymph, ditto, 3*s.* 6*d.*

OBSTETRIC FEES.—Abortion or premature labour (with three subsequent visits)

	1	0	0
Normal labour (including three subsequent visits)	1	5	0
Labour, with forceps	1	10	0
,, ,, turning	1	15	0
,, ,, craniotomy	2	2	0
,, ,, transfusion	2	2	0
Anæsthetic at any of the above	0	7	0
Removal of after-birth without conducting confinement	1	0	0
Dilatation of cervix with tents, bags, or instruments	0	10	0
Help, in connection with difficult labour, from another doctor	1	0	0
Induction of premature labour, and completion of such labour	1	15	0
Treatment of severe *post-partum* hæmorrhage	0	10	6
Treatment of *ante-partum* hæmorrhage (exclusive of confinement fee)	0	7	6
Examination of wet nurse	0	2	0
Operation for recent rupture of perineum	0	5	0
Cæsarian operation	2	10	0
Irrigating vagina or uterus	0	2	6

GYNÆCOLOGICAL FEES.—Treatment of minor affections of uterus

	0	2	0
Removal of small tumours from vulva, vagina, or cervix	0	3	6
Introduding pessary (pessary included)	0	2	0
Curetting interior of uterus	0	7	0
Operation for atresia of vulva, vagina, or cervix	0	7	0
Operation for imperforate hymen	0	7	0
Operation for old rupture of perineum	1	1	0

POST-MORTEM FEES.—External examination of dead body

	0	7	6
Post-mortem examination, partial	1	0	0
,, ,, complete	2	2	0
Written statement regarding *post-mortem* examination	0	10	6

SURGICAL FEES.—Passing catheter

	0	2	0
Removal of small tumour 3*s.* 6*d.* to	0	10	0
Removal of tonsils, or enlarged glands	0	10	0
Removal of nævus, tenotomy, circumcision	0	10	0
Harelip, operation for	0	10	0
Reduction of hernia	0	10	0
Removal of ingrowing nail, or opening of abscess	0	2	6
Treating simple wounds, burns, or scalds	0	2	0
Treatment of simple or compound fracture or dislocation (apparatus included) of the arm	0	15	0
,, ,, ,, ,, ,, ribs or clavicle	0	12	6
,, ,, ,, ,, ,, thigh or leg	1	10	0
,, ,, ,, ,, ,, jaw	0	10	0
Amputation of finger or toe	0	10	0
Testing sight (glasses not included) per visit	0	3	6
Operation on eyelid or eye from 5*s.* to	1	0	0
Treatment of disease of the ear	0	2	0
Operation on ear by knife or snare	0	3	6
Washing out of stomach	0	5	0
Chloroform or ether administration	0	5	0
Consultation at branch	0	7	6
Consultation at patient's home (see above)	0	10	6
Testing urine, chemically and microscopically	0	2	0
Removal of nasal polypus	0	5	0
Removal of foreign body from ear or nose	0	2	0
Tracheotomy	0	12	6
Skin-grafting	0	2	6
Paracentesis of the thorax or abdomen	0	7	6
Tapping hydrocele	0	5	0
Operation for fistula *in perineo*	0	7	6
Operation for internal hæmorrhoids	0	12	6
Operation for imperforate anus	0	10	6
Cupping, dry or wet	0	5	0
Venesection	0	7	6
Leeching	0	2	6
Washing out the bladder or bowel	0	3	6
Seton, or issue	0	2	6
Administering an enema	0	2	6
Wet packing	0	2	6
Application of constant or induced current	0	3	0
Stretching or stitching a nerve	0	10	6
Arresting arterial or venous hæmorrhage	0	2	6
Removal of foreign bodies from eye or throat	0	2	6
First treatment of a sprain of upper or lower limb	0	2	6
Operation for paraphimosis	0	10	6
Injecting bowel with air or fluid for intussusception	0	4	6
Reduction of strangulated hernia	0	10	6
Operation for strangulated hernia	1	0	0
,, rectal ulcer	0	2	6
,, ,, fissure	0	2	6
,, ,, stricture	0	7	6
Extraction of foreign body from urethra	0	3	6
Treatment of urethral stricture by bougie, per sitting	0	2	6
,, ,, operation	0	15	0
Puncture or aspiration of bladder	0	4	6
Crushing stone in the bladder	0	10	6
Aspiration of joints or cavity	0	4	6
Strapping testicle	0	2	6
Extirpation of testicle	0	10	6
Plugging the nostrils	0	4	6
Measuring and fitting felt or plaster jacket	0	3	6

Doctor's assistance at an operation at patient's home or at branch, equal to that mentioned as the full surgical fee.

Excision of the breast	0	10	0

In case the fee for an operation is not mentioned in the above list, such fee shall be fixed at a meeting of the branch committee, at which at least three-fourths shall be present. Scale of fees to be revised every fifth year. The above scale of fees refers to operations performed before 7 p.m. After that hour an extra half fee may be charged.

DENTAL FEES.—Extraction per tooth

	0	1	0
Extraction each extra tooth	0	0	6
,, under gas	0	2	6
,, ,, and each extra tooth	0	0	6
Stopping with amalgam, per tooth	0	2	0
,, ,, gold ,,	0	4	0
Extractions under ether or chloroform	0	12	6
Artificial tooth, with vulcanite plate	0	4	6
,, ,, ,, ,, and each extra tooth	0	2	0
Scaling teeth	0	2	6
Examination of all the teeth without operation	0	2	0
Small operations on the gums, or removing tumour	0	3	6
Regulating apparatus for deformed jaw or teeth, made of tin or vulcanite	0	7	6

Visits to patients' home, the same as medical fee for for such

Cleansing and stopping of root, the same fee as stopping of tooth

Administration of ether or chloroform by doctor for dental operation	0	7	0

CHEMIST'S CHARGE.—4*d.* per prescription.

In case more than one prescription is dispensed at one time for the patient, such as a mixture, pills, ointment, or liniment, the sum of 3*d.* will be charged for each. No prescription to be renewed for the patient by the chemist until the patient has been again advised by the doctor. No copies of prescriptions to be given by the chemist to the patient. All prescriptions to belong to the doctor who wrote them.

I have drawn up this scale of fees after prolonged deliberation, and after having taken the opinions of doctors, dentists, chemists, and employers of labour. The scale is drawn up greatly in favour of the wage earner, and the fees quoted are much below those paid by the Poor Law. I would suggest that the scale of surgical, obstetric, gynæcological, dental, and vaccination fees, and those for letters and consultations, be adopted as the scale for the provident scheme, while the fees relating to visits and medicine be considered separately.

In drawing up a table of payment for Provident Dispensaries, I would suggest than an "Age Table" be used as in other insurances. I would charge every member 6*d.* per month, and place the different rate of payment on the "entrance fee;" for, though the entrance fee would be paid yearly, each member would require to be examined by one of the medical staff before admission, and for this he would be paid 2*s.* out of the Hon. Members' Fund.

The scale of yearly entrance fees would be—

	s.	d.
From the age of 0 to 8 years	2	0
,, ,, 8 to 16 ,,	1	3
,, ,, 16 to 40 ,,	0	6
,, ,, 40 to 55 ,,	0	9
,, ,, 55 to 70 ,,	1	0
,, ,, 80 and upwards	2	6

When the entrance fee exceeds 1*s.* the balance to be paid from "Hon. Members' Fund." One penny will be charged for each separate prescription. A levy of 1*d.* per month would be placed on each benefit member, so as to help in defraying management. The fees for vaccination, surgical or obstetric operations, and confinements, would be the same as those of the Public Medical Service (see above). The sum subscribed by honorary members would be one-third the amount paid by benefit members. I would fine any doctor or dispenser 5*s.* who supplied any benefit member with treatment or medicines who was in arrear with payments. Members would enter into benefits two months after joining. In case of confined illness, or infirmity of old age, a yearly entrance fee of 5*s.* would be charged, plus the 6*d.* monthly and levy.

I think the above plan of placing the different scale of payments on an annual entrance fee is better than making different monthly payments for each member. It will be less cumbersome, and will induce members to stay. If the hospitals turn away at least 42.32 per cent. of their present out-patients, the provident system would soon be a success. London—to begin with—would have a total of 700,000 benefit members in the first year.

Supposing we had a provident society of 1,000 benefit members, the following would give a fair idea of the expenditure :—

	£	s.	d.
Rent and taxes	36	0	0
Coal and gas	3	0	0
Printing, postage, and stationery	12	0	0
Drugs, bottles, bandages, instruments, etc.	25	0	0
Examination fees to medical staff	100	0	0
Cleaning of Branch	5	0	0
Dispenser, including residence at Branch	65	0	0
Commission on collection of members' payments, five per cent.	15	0	0
Part payment of entrance fees	12	10	0
Furnishing Branch	15	0	0
Salaries to medical staff	350	0	0
	£637	10	0

The income of such a branch would be :—

	£	s.	d.
Sale of members' books, 2*d.* each	8	6	8
Fines	1	0	0
Sale of drugs	20	6	8
Levy on benefit membets	50	0	0
Entrance fees at 1*s.* 3*d.* each (average)	50	0	0
Monthly payments from Branch members	300	0	0
Subscriptions from honorary members	214	16	8
Total income	£644	10	0

thus leaving a balance of £7.

The above sample balance sheet shows that with 1,000 members we should repuire an income of £637, and to meet this there would be a payment of £429 13*s.* 4*d.* from benefit members. A third of the latter sum must, therefore, come from honorary subscribers, that is, £214 16*s.* 8*d.*

As regards the amount this would give to the medical staff of, say, four doctors, we should have from

	£	s.	d.
Examination fees from honorary subscribers	100	0	0
Part entrance fees	12	10	0
Entrance fees from benefit members	50	0	0
Monthly payments	300	0	0
	£462	10	0

This would give on an average £114 12*s.* 6*d.* to each doctor, and, giving five visits to each member, this would make a fee up to 1*s.* 10*d.*

The average yearly payment by each benefit member would be :—

	s.	d.
Average yearly entrance fee	1	0
Member's book	0	2
Twelve monthly subscriptions	6	0
Levy	1	0
Five prescriptions per annnm	0	5
	8	7

This is about 8d. per month : 2d. per week, or 1 farthing per diem, each benefit member would cost the society 12s. 10d. per annum, and would pay 8s. 7d. of this himself.

Some, especially employers of labour, will no doubt object to pay part, but such must be let know that medical men have gone as far as they can in supplying medical aid on a charitable basis. The limit of unpaid medical service has been reached. I do not think 1s. 10d. is too high a fee for a night visit. As at present conducted, the vast majority of provident dispensaries are supplying medical aid to very well-to-do people for a very few coppers a month. It is not too much to hope that as wages have gone up so much during the last few years, the industrial classes will see their way to cease asking for more medical charity. True charity begins at home, and, for my part, I cannot see why one deserving class of society should starve themselves, their wives, and children, and should leave them depending on one or two benevolent medical institutions so that well-to-do people may have more money to spend on luxuries. I am not now speaking of hospitals, where true charity should always resign, but of a class of the community who would be insulted if they were told they were, in a medical sense, paupers, and depending on the benevolent actions of others. I am speaking of a provident plan which should be as little depending on charity as are our Oddfellows' and Foresters' societies, or the German working classes under their compulsory plan of insurance against sickness.—I am, etc.,

ROBERT REID RENTOUL.

Liverpool.

VOTING BY PROXY.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—At the last annual meeting of the British Medical Association at Leeds, Dr. Erskine and I had given notices of motion that voting by proxy should be allowed at general meetings of the Association. Finding, however, that in order to give this power the Articles of Association must be altered, we withdrew our motions, because any alteration in the Articles of Association has to be made at a special general meeting called for the specified purpose, and the alteration has to be confirmed at a subsequent general meeting, a majority of three-fourths being required. Wishing to test the opinion of members as to the proposed change, I drew up a requisition asking for a special general meeting of the Association to be called for the purpose of allowing voting by proxy at general meetings. Such a requisition must have the names of 100 members attached to it, and I have already obtained the greater part of this number of signatures. The requisition will be presented when it is thought a suitable time for doing it.

With regard to the desirability of allowing voting by proxy, it is the only way in whlch the opinion of the whole Association can be taken on any subject. At present only those who are able to attend the general meetings in person have an opportunity of expressing their opinion. It is true members can exert an indirect influence through the branches and their representatives on the Council; but even this remote influence is denied to that very large section of the Association —the "unattached" members. All these unattached members have no voice whatever unless they attend the general meetings.

Some of us hope that—in spite of strong opposition—we may be able to induce the Association to use its powerful influence in promoting much-needed reforms, and removing the gross abuses which discredit the medical profession. In order that such action may be productive of beneficial and permanent results, it is quite necessary that the humblest in the profession should have a direct voice. If every member of the Association is not fit to have a vote, then the Association should take steps to prevent the admission of unfit members, not to the Association only, but also to the medical profession. There is a large number of members of the Association who occupy the position of assistants to older or more fortunate medical practitioners. These are seldom attached to any branch of the Association, because they have no fixed abodes, and it is usually quite impossible for them to attend the general meetings of the Association. Who is to defend their interests? I think, moreover, that a strong argument in favour of a step which will give increased power to individual members of the Association is afforded by the attempts recently made to force the hands of the Association by threats of wholesale resignations, and by other unconstitutional means. I was myself present at a meeting of the metropolitan branch, which—from its position—exercises a powerful influence on the whole Association, when a member coolly informed the meeting that unless a certain resolution was passed he would hand in the resignations of over 100 eminent London doctors. Now, is it right that our Association should be swayed by whatever faction or party happens to be in the ascendant in London medical circles? If every member of the Association had a direct voice in its management, there would be no fear of its being made the sport of metropolitan jealousies and rivalries.

Some, however, are anxious—above all things—that the Association should be purely scientific, and should not attempt to better the condition of the medical profession. These, of course, will oppose voting by proxy, for there can be little doubt that the majority of medical men feel that the time has come for a sustained effort to make the medical profession something like the noble profession which October orators, interested in maintaining optimistic views, are so fond of depicting it.

You are good enough to offer your columns for the ventilation of the question of voting by proxy in the British Medical Association, and I trust that those who intend to oppose this reform will publicly give their reasons for doing so. It must be admitted that there is at least a *primâ facie* case in its favour. The requisition to which I have alluded above is thus worded :

"We, the undersigned members of the British Medical Association, hereby request the Council of the Association to convene an extraordinary general meeting of the Association, for the purpose of adding to or altering the Articles of Association, so as to allow voting by proxy at all general meetings of the Association, and to provide for the circulating of unstamped proxy papers with the copies of the journal, at a convenient time before such general meetings; and also to make any other such changes in the Articles of Association or By-laws as shall appear to the meeting advisable on account of the admission of voting by proxy."

I shall be glad to append the name of any member of the Association who sends me his signature, with qualification and address, written on a clean sheet of paper.—I am, yours,

Highgate, London, N. HUGH WOODS, M.D.

ON THE REMOVAL OF RENAL CALCULI BY TOXIC DOSES OF BELLADONNA.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—An article on this subject, by Dr. W. Murray, in the last issue of the PROVINCIAL MEDICAL JOURNAL, is my reason for remarking on the uncertainty of the British Pharmacopœial tinctures and extracts, which are yet, for the most part, unstandardised.

Dr. Murray remarks that "We may begin with a forty-drop dose of the tincture, and repeat it every two hours, increasing or diminishing the dose according to its effect on the patient." Now it is the experience of every practical therapeutist that the Pharmacopœial tinctures and extracts may vary greatly in strength and in the active ingredients they contain. The extract of belladonna prepared in a given year has given an alkaloidal strength of from .73 per cent. to 1.17 per cent.

Of late years, therapeutists have come to see that all medicinal preparations, where practicable, should be standardised, and although the "British Pharmacopœia" is notoriously slow in adopting any improvement in pharmacology, we have already at our command a large number of standardised tinctures, constant in strength. These are made by many leading chemists in England, and a short practical use of these preparations will convince every prescriber of their superiority over preparations, the strength of which may vary according to the amount of sunlight, quality of soil, and subsequent manipulation under which the plant passes, before it emerges as an official tincture or extract.

Constant tinctures were brought before the notice of the profession four years ago by Squire, of London; they were very favourably reviewed by the leading journals (*Lancet*, March 7th, 1885, *British Medical Journal*, February 14th, 1885), but their use has not yet become so general as prudence and caution would direct.

I am, yours faithfully,

Kirkby-Stephen. BENJAMIN WALKER, M.D.

ARSENIC EATING.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

SIR,—It is not a case of doubt: I am utterly incredulous in regard to arsenical toleration, and shall remain so until a person shall be shewn to, say, the Medico-Chirurgical Society, who is taking half an ounce—only two grains of arsenious acid—daily, without inconvenience.

Maclagan's story is identical with the original of von Tchudi's, and presents the same elements of inaccuracy. Neither tell us what tests were used for the identification of the "arsenic," nor the precautions taken for ascertaining that the men really swallowed it, and that arsenic had not been added to the urine after micturition. And, as it is not usual for travellers in Syria (Styria?) to encumber themselves with chemical apparatus and tests, how did Sir Douglas's son improvise the former and find the latter? And, above all, what were his qualifications as a scientific observer?

The action of opium is purely physiological, therefore, it may be tolerated to any extent; arsenic acts medicinally only in the minutest doses, beyond these it is chemically a disintegrant, an irritant, an escharotic; we might as well attempt the toleration of concentrated nitric acid.—Very obediently yours,

G. CADOGAN-MASTERMAN.

To the Editor of THE PROVINCIAL MEDICAL JOURNAL.

A CORRESPONDENT would like answers to the following queries:

BULLOCKS' BLOOD.—Will any competent reader give information of the value of this agent; how to make defibrinated bullocks' blood in scales, and how long it will keep good in stoppered bottles?

ACID GLYCERINE PEPSINE SOLUTION.—What is the most efficient method of making this useful preparation?

STABLE SOLUTION OF PODOPHYLLIN.—The pharmacopœial tincture being an inelegant preparation, how may a constant solution or tincture be made which will be clearly miscible with infusions, acids (weak) or alkalies?

INFANTS' FOODS.—Where can we obtain a reliable tabulated analysis of the many tinned foods for invalids and infants?

PANCREAS SOLUTION.—Can any reader give a good working method for making pancreas solution, and a method for pancreatising tinned foods?

REP.

Bibliographical Record.

BOOKS, PAMPHLETS, ETC., RECEIVED.

A Text-Book of Physiology. By John Gray M'Kendrick, M.D., LL.D., F.R.S.; including Histology, by Philipp Stöhr, M.D., Professor of Anatomy in the University of Zurich. In two volumes. Volume 2.—Special Physiology. Glasgow: James Maclehose & Sons. 1889.

Pseudo Hay Fever, Symptoms and Treatment. By Adolf Brönner, M.D. Reprint from *Lancet*, July 13th, 1889.

Antiseptic, Ophthalmic, and Aural Surgery. By Adolf Brönner. Reprint from *Lancet*, 1889.

Diseases of and Operations on the Mastoid Process. Reprint from the *Medical Press and Circular*.

On the Local Treatment of Non-Suppurative Diseases of the Middle Ear. By Adolf Brunner. Reprint from the *Provincial Medical Journal*, June, 1889. London: John Bale & Sons.

The Climate of Southern California and its Relation to Renal Diseases. By P. C. Remondino, M.D. Reprint from the *Southern California Practitioner*.

Introduction to the Treatment of Disease by Galvanism. By Skene Keith, M.B., F.R.C.S. Ed. pp. 62. London: Truelove & Shirley.

London (Ancient and Modern) from the Sanitary and Medical Point of View. By G. V. Poore, M.D., F.R.C.P. pp. 128. London: Cassell & Co.

A Year's Experience with Apostoli's Method, with reports of cases. By Lapthorn Smith, B.A., M.D. pp. 20. Reprint.

EXCHANGES, 1889.

AMERICAN:—

1. The Journal of the American Medical Association.
2. The Therapeutic Gazette.
3. Medical Register (Philadelphia).
4. New York Medical Journal.
5. Medical Record (New York).
6. New England Medical Monthly.
7. Medical Times (Philadelphia).
8. The Analectic.
9. The Medical News.
10. The American Druggist.
11. Universal Medical Sciences.
12. International Journal of Medical Sciences.
13. St. Louis Medical Journal.
14. New Orleans Medical Journal.

BRITISH:—

15. The Practitioner.
16. The Medical Chronicle.
17. The Medical Press and Circular.
18. The Journal of Microscopy and Natural Science.
19. The Indian Medical Gazette.
20. The Australasian Medical Gazette.
21. The British Gynæcological Journal.
22. The Birmingham Medical Review.
23. The Ophthalmic Review.
24. The Pharmaceutical Journal.
25. Public Opinion.
26. The Chemist and Druggist.
27. The British and Colonial Druggist.
28. The Australasian Journal of Pharmacy.
29. The Hospital.
30. The British Journal of Laryngology.
31. Dublin Journal of Medical Sciences.
32. Asclepiad.
33. Army and Navy Gazette
34. British Journal of Dermatology.

DUTCH:—

35. Nederlansch Tijdschrift voor Geneeskunde.

FRENCH:—

36. Journal de Medecine de Paris.
37. L'Union Medicale.
38. Le Progrès Medical.
39. Bulletin Général de Thérapeutique.
40. Gazette Hebdomadaire des Sciences Medicales.
41. Revue Pratique d'Obstetrique et d' Hygiene de l'Enfance.
42. Annales de Gynæcologie et d'Obstetrique.

GERMAN:—

43. Centralblatt für Kinderheilkunde.
44. Centralblatt für Gynecologie.
45. Centralblatt für Chirurgie.
46. Illustrirte Monatschrift der Artzlichen Polytechnik.
47. Der Fortschritt.
48. Fortschritt der Medecin.
49. Chemiker Zeitung.

ITALIAN:—

50. Lo Sperimentale.
51. Rivista Internationali di Medicina.

PORTUGUESE:—

52. A Medicina Contemporanea.

RUSSIAN:—

53. Vratch.

SPANISH:—

54. Rivista Clinica de Barcelona.

TURKEY:—

55. Revue Medico-Pharmaceutique Constantinople.

Yours very sincerely

Henry W. Berman

THE

Provincial Medical Journal:

A MONTHLY REVIEW OF MEDICAL SCIENCE, LITERATURE, AND BIOGRAPHY.

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Our Portrait Gallery.

HENRY WILLIAM FREEMAN,

F.R.C.S.I., L.R.C.P. LOND.

H. W. FREEMAN was born in 1842 in the neighbourhood of Westward Ho! North Devon, rendered famous by the writings of the late Charles Kingsley. He was educated at the Bideford Grammar School, and subsequently by private tuition, and at an early age he passed through the usual pupilage with a well-known local practitioner of medicine. As an earnest student he became well known to, and respected by his teachers during his curriculum at the Middlesex Hospital, and we find him year by year first prizeman in most of the academical subjects. He was Governor's prizeman in surgery, medicine, and general excellence in 1863; and by the unanimous recommendation of the medical staff he succeeded in obtaining the following year the post of Resident Medical Officer at the Royal United Hospital, Bath. In the year 1881 he was appointed one of the Senior Surgeons of that institution.

A busy, active life came to Mr. Freeman early in his professional career, and it is pretty well known how well he made use of his opportunities. In the Jubilee year he offered as a free gift to the city of Bath a valuable property outside the city as a convalescent home, subject to its being annexed to the Royal United Hospital, of which he formed one of the senior staff; but his offer fell through, notwithstanding his determined efforts, owing to the endowment fund subscribed being inadequate for future maintenance, and all his intimate friends well knew at the time how deep was the grief, and bitter the disappointment, when his projected scheme was abandoned.

For several years he has followed persistently the custom of visiting all the leading spas and health resorts in France and Germany; and during the International Medical Congress in America in 1887 he made himself acquainted with the springs of Saratoga, and those of Virginia, the main object of these travels being to satisfy himself what position Bath and its mineral waters should rightly hold in the system of modern balneo-therapeutics. Mr. Freeman soundly believes in the undeveloped virtues in drinking the Bath mineral waters, and maintains, for example, that the Bath mineral, lime-sulphated water when drunk "COLD" for renal and bladder disorders is an analogue of the Pavillon water of Contrexèville, and he is busy in classifying his results. He is indefatigable in presenting to the Bath Corporation the necessity of raising new buildings in connection with the baths, for new treatment, and for hygienic and social purposes, and he is a consistent believer in the baths of Bath when estimated by their thermality, their extended modes of administration, and their varieties of application.

As Mayor of Bath he entertained on June 13th, 1889, H.R.H. The Duchess of Albany, the *élite* of the county and surrounding neighbourhood, and a very large and representative body of the medical profession from all parts of the United Kingdom, at the inaugural ceremonial opening of the new massage baths; and it is conceded that the function was a considerable success, and one that will be remembered as a red letter day in the annals of the "City of the Warm Vale." We published a full account of this interesting ceremonial in the July issue of the "PROVINCIAL MEDICAL JOURNAL," and we can only repeat our estimate of it, that it was in every way a successful ceremonial, and a credit to its Mayor.

Mr. Freeman is the author of the new work on "The Thermal Baths of Bath, with the Aix Massage, and Natural Vapour Treatment," and his best surgical papers are those on "Hysterectomy;" on "Recurrent Fibromata of the Neck in Relation to the Branchial Arches;" on "Extirpation of the Rectum;" on "Cavernous Angioma of the Tongue," etc. He is a deep believer in self-reliance and incessant labour, and is looked upon as a cultured speaker, possessing the courage of his opinions, expressing himself fearlessly and concisely, and giving his hearers the impression that "what his heart thinks, his tongue speaks."

Original Communications.

NOTES ON THE TREATMENT OF ACNE.

By H. Valentine Knaggs, M.R.C.S., L.R.C.P.

Among the numerous skin affections of modern days with which we have to deal, one of the most troublesome is acne. It is a cause of extreme annoyance to the sufferer, and attacks a portion of the body—viz., the face, which cannot by any manner of possibility be screened from observation. Hence the patient is only too ready to adopt any reasonable means to bring about its cure. Although the diagnosis is simple and easily made, the disease itself is too often found to prove rebellious to the action of drugs; and in order to effectually lay down any definite and successful mode of treatment, it becomes an important point to study the pathological characteristics of the affection.

Acne is generally considered to be an inflammation of the hair follicles, in which the sebaceous glands are stimulated to secrete their peculiar oily caseous matter to such an extent as to produce distension of the ducts. As a result, disfigurement and a papular or pustular eruption ensues. The disorder occurs for the most part at puberty or during early manhood, when vitality is at its highest pitch, and when the procreative functions are for the first time started into active operation.

Most modern authorities insist strongly on the relation between acne and sexual hyperæmia. The further this question is studied, the more will the force of this connection be felt. The various vital functions of the nervous system are mainly carried on through the agency of complex nitrogenised and phosphorised fats, such as lecithin, cerebrin, neurin, and similar bodies. When the compounds are secreted in considerable excess, as would be the case when the sexual functions are in a state of great activity, it becomes an interesting problem as to what becomes of their by-products. One might reasonably surmise that the system, having more fatty matter than it knows how to dispose of, allows a certain portion of the waste to filter through the sebaceous glands; in other words, instead of the hydrocarbon products of lecithin, cerebrin, and possibly also ingested fat derived from food, being burnt up or deposited in the tissues in the ordinary course of events, they are retained in the blood, and leak out through the hair follicles, so causing acne.

On the other hand, it is generally noticed that highly delicate or consumptive people are remarkable for the clearness of their complexions, and for the decided absence of fatty secretion connected with the hair follicles, while their sexual functions are usually in abeyance. I think one may not unreasonably conclude, then, that the relation between acne and the sexual organs is certainly more than a passing one. Moreover, Professor Brown-Sequard in his recent experiments appears to consider the semen as a vitalising agent, while it has been proved that the hypodermic injection of seminal fluid had a most remarkable rejuvenating effect both on himself and others. We may all have our doubts as to the desirability or utility of these injections in the case of persons who have passed their allotted sphere of life, although the importance of verifying the statement that the secretion of semen has an important influence on the economy is material.

Now, consumptive patients of the kind mentioned are usually much benefited by the administration of cod-liver oil, by the use of alkalies, which may serve the purposes of promoting the absorption of fats by the intestinal fluids, and by the hypophosphites. Fats and oils administered internally, although not generally classed as such, have, I believe, a marked aphrodisiac effect. The natives of India have been known to use frictions of oil to the surface of the body under the supposition that the secretion of semen would thereby be augmented. Perhaps it is that cod-liver oil, given to a young consumptive adult, supplies vitalising elements to the economy, which, through the deficiency of complex nitrogenised and phosphorised fats, are much wanted. Probably, also, a reason why the hypophosphites do good in similar cases is that they supply a form of loosely combined phosphorus, which takes the place of lecithin, a body that is found in some quantity in the seminal fluid. Lecithin is a glycerin-phosphate of neurin, or a combination of glycerin-phosphoric acid with neurin; hence there must be a close chemical resemblance between this so-called fat and the hypophosphites.

If we regard acne, then, as merely a leaking of superabundant fat through the oil glands of the skin, the treatment based upon that hypothesis becomes easy, and, according to my experience, decidedly efficacious. The kind of remedies upon which I place most reliance are either substances containing, or rich in, oxygen, or volatile stimulant hydrocarbons of the alcohol series.

In order to reduce the sexual hyperæmia, with its attendant excessive vital energy, we must direct the patient to take plenty of vigorous exercise. In the case of a youth or young adult, he should be urged to join a gymnasium, or to regularly practise such arts as swimming, boating, lawn tennis, cricket, dancing, and the like, during his spare time. Then he should take every morning a cold bath; this gives tone to the system generally, and to the skin in particular, while it subtracts a considerable amount of animal heat which must be made good by the combustion of an extra quantity of fatty and hydrocarbon foods. As to diet, unless vigorous exercise is indulged in, the patient should be enjoined to eat animal food but sparingly, and to especially avoid cooked or decomposed fats, such as the fat or dripping of butchers' meat, pastry, etc.; while, should constipation be present, whole meal bread and wheat meal porridge are useful. By a judicious dietary we can, so to speak, cut off supplies by interdicting sundry articles of food which, in an ordinary way, would serve to increase sexual hyperæmia, and equally promote an increased secretion by the sebaceous glands. At the same time, by careful hygiene and exercise, the system is enabled to work off, or rather burn up, any excess of fatty matter. I believe the cold bath should hold foremost rank as a means of getting rid of this troublesome skin disorder. At times the Turkish bath may effect improvement by clearing the blocked ducts of their comedones, but the benefit that patients derive from this hot-air bath is often not lasting, and they are very prone to relapse.

With respect to therapeutic measures, a most valuable remedy is oxygen. No doubt, in the form of inhalation, it should give the best results, but this is out of the reach of most of us, and therefore it will be necessary to fall back on fitting substitutes. To drink oxygen water, as supplied by Brin's Oxygen Company, is a good way of administering the gas. It should be taken to the extent of from one to two syphons per diem. Since much of the gas is lost in pouring it out, the patient should apply his mouth to the nozzle, then press the tap, and so drink it when the fullest possible

amount of the gas will be had. Then we can administer peroxide of hydrogen, preferably in the form of ozonic ether, in doses of fifteen minims to a drachm, three times a day in water. This volatile liquid promotes glandular secretion, and when given in cases of diabetes is found to oxidise sugar. In acne it is highly probable that it oxidises fat. One might add, by the way, that ether alone markedly increases the digestibility of cod-liver oil and other oils, when administered in combination with them. The compound of ether and peroxide of hydrogen is certainly a good one, and is decidedly efficacious in cases of acne. Lastly, we have chlorate of potash, which observers declare passes unchanged through the body. It has been supposed to give oxygen to the system; whether that be the case or not, it will be found to act satisfactorily in acne, more especially when combined with tinct. guaiaci, or tinct. guaiaci ammon. This mixture is, however, somewhat nauseous, and I would suggest a lozenge containing five grains of chlorate of potash and two and a half grains of guaiacum resin in each, as a more elegant way of administering the same.

Guaiacum, a remedy which I have found exceedingly useful in cases of boils, although in this respect it is not quite so curative as sulphide of calcium, yields very good results in some cases of acne. From its composition, the resin may be classed as a hydrocarbon, and like ether, alcohol, and other volatile bodies of an allied nature, when given in small doses acts as a stimulant, quickening the circulation, and so promotlng increased combustion of heat-producing food. Guaiacum is best administered in the form of lozenges, containing four grains in each; from three to six, or even more, being given daily. The drug further sets up a mild irritant effect on the intestine, and thus acts as an efficient laxative.

I think it must be conceded that acne is more frequently seen in young adults who are rigid abstainers, than in those who are moderate drinkers of alcohol; therefore, as experience will demonstrate, a judicious resort to beer or light wines may assist in removing the disorder. These beverages act in a similar manner to ether or guaiacum in accelerating the circulation and promoting increased combustion of the hydrocarbon foods.

According to my experience, but little reliance can be placed in local applications. Some form of sulphur is the medicament usually employed, and in the main, perhaps, this mineral is one of our best topical remedies. Still, if practitioners would devote more attention to general measures, to the exclusion of mere palliatives, I think they would find, as I have roughly endeavoured to set forth, that oxygen or volatile stimulant hydrocarbons exert a permanent and lasting effect in these cases, particularly if combined with a careful dietary and a regular and judicious use of the cold bath.

THE MEDICAL TRAINING OF THE COUNTRY PRACTITIONER OF THIRTY YEARS AGO.[1]

By A. Hirst, M.D., F.R.C.P. Ed.

The subject I bring before your notice this afternoon has suddenly become one of the questions, if not the question of the hour, in our profession. The address of Dr. Wheelhouse, our president, at the annual meeting at Leeds, lately held, has evoked rather a sharp controversy on the subject, and has brought out a variety of opinions with regard to it. Having commenced my professional career by the old-fashioned apprenticeship system, I pin my faith upon it. Dr. Gairdner told us in his address that he believed in thoroughness; I believe that every gentleman in this room does the same, but I think few of us will agree with him in thinking that to spend four years in studying a few cases thoroughly will fit a man to undertake in an efficient manner the whole duties of a good general practice. What thoroughness I have about me I learnt during my apprenticeship. I commenced by dispensing the medicine, under the supervision of the senior pupil, making pills by the thousand, mixing and wrapping up stocks of powders, rubbing up ointments, spreading plasters, etc. Constantly consulting a good work on materia medica, and also one on practical chemistry, I soon got a good practical knowledge of drugs and their combinations, having some one near at hand frequently during the day ready to solve any doubt, and supervise all I did. I have seen no system adopted in any school of medicine with regard to that kind of work from which I could have derived anything like the same amount of benefit. In the meanwhile, as a variation, we had a fairly good work on anatomy, one on physiology, and a drawer full of bones, which we worked up for a change alternately with the other work, daily trying to add a little to our general stock of knowledge. Shortly a drive was taken with the principal in his gig on his rounds, who on the way discoursed on medical matters in general—methods, duties, obligations, requisite thoroughness, and disasters likely to result from a single mistake. Patients who saw one with him were aware that one was a pupil, and gradually began to notice one, which paved the way for something further. By and by he takes one to see a case near at hand, commencing with one of a typical character, which of course leads on to others—reading up in connection with each case. Meanwhile, one is reading up Swayne's "Obstetrics," the anatomy of the pelvis, etc., awaiting the first midwifery demonstration. One received solemn warnings from the principal as to the necessity for thoroughness in that especial branch.

A case of midwifery occurs near at hand; the patient having no objection, one is taken in to stand quietly by, observe closely, and ask questions afterwards. One saw for the first time the tying of the umbilical cord, the removal of the placenta, the application of the binder, and heard the general instructions which were given. The same course is repeated a few times. Then just afterwards someone sends in a hurry. The principal is out. After a short wait one presents one's self, saying that the principal has been sent for, and in the meantime but wait his arrival. The pains increase. One is sorry that the chief is not present, and expresses sympathy, and as a last resource help is offered. There being no time to say nay, one places one's hand gently on the perineum: the child is born in a few minutes; one immediately ties and separates the cord, and when another pain occurs, traces the cord to its attachment to the placenta, and feeling the mass in the vagina gently removes it. Thanks for great and skilled assistance are profusely rendered, and one's praises are sounded abroad. Afterwards one is then quietly initiated in the uses of ergot, opiates, hæmastatics, the forceps, etc., and, chief of all, the virtue of patience, the tonic effect of cheerfulness, and the inadvisability of being too meddlesome.

[1] An address prepared for the meeting of Lancashire and Cheshire Branch of the British Medical Association, held at Blackburn, November 6th, 1889.

In the meantime, cases of measles, scarlet fever, whooping-cough, varicella and variola cropped up, which one had an opportunity of visiting, and learnt to discriminate between them, reading up each subject as opportunity presented; comparing and digesting, as far as possible, the facts connected therewith. When we came to diseases of the internal organs, I felt a knowledge of anatomy and physiology to be necessary. A little practical knowledge was available on the quiet. Organs, such as eyes, hearts, and lungs of animals were attainable, and made use of.

I cannot think that the preliminary training which I have so imperfectly described is to be utterly despised. I have never repented having undergone it. After such a training, good lectures are thoroughly appreciated, and hospital practice can be cultivated with an educated eye and hand, and give the necessary finish requisite for a diploma. But so far as my experience goes the clinical teaching of a hospital as compared with that under the supervision of a good general practitioner as a preparation for general practice is not to be compared. In one case the student is one of a crowd; in the other he is the pupil.

After such a preliminary training, even if a few old-fashioned notions have been picked up, the three years hospital practice will be likely to dispel them. But the general practitioners of the present generation are not so far behindhand as some people imagine. One rather smiles when one hears some speak in tones of derision of the country practitioner. He is trained to rely upon himself. He must be thoroughly acquainted with his duties, as help is very frequently not to be had in emergencies. He feels his responsibility, and acts accordingly.

Cash being rather scarce at the end of my apprenticeship, I went up to London and acted for some time as an unqualified assistant. I was astonished to find the great difference that existed between the knowledge and the self-confidence of the country practitioner compared with the Londoner in general practice. Cases that I had been accustomed to see undertaken without the slightest hesitation in the country, were sent to the hospital, or a consultant was called in to see them. The fellows of old standing seemed rather amazed when the much despised unqualified assistant in an intricate case of midwifery could quickly turn and deliver a child, or when they had torn the head by force from the body, or rather the body from the head, he could quickly bring it, as he did upon two occasions, safely—in one having to break down the skull in order to remove it. Many other cases I might enumerate.

The plan I have so inadequately sketched, added to two and a half years attendance upon lectures and hospital practice, was the general system carried out thirty to forty years since, and I maintain that on the whole the results were not to be despised. Great advances have of late years been made, to which country practitioners have contributed their share. To keep up with the times a thoroughly searching, preliminary, scientific examination should be passed before the commencement of medical study, then a two years' apprenticeship with a practitioner who knows his duties, has opportunities for practice on a fair scale, and is willing to impart knowledge. After the apprenticeship, three years of close attention to hospital practice, and chemical, physiological, hystological, and other collateral branches of the medical and surgical science and art, will, I think, form a fairly good basis to found a practice upon.

NEWBOULDIA LÆVIS IN THE TREATMENT OF DYSENTERY.

By J. Farrell Easmon, M.D., etc.

Many of the medicines most highly prized to-day, such as cinchona, coca, jaborandi, ipecacuanha, araroba, etc., were at one time empirical remedies employed by uncivilised peoples. There are doubtless still, among the remedies employed by the natives of Africa, many powerful drugs that may hereafter prove of value to the human race, when their properties have been investigated in a thoroughly scientific manner by eminent therapeutists, physiologists, and chemists. Being situated in a country whose *materia medica* is almost unknown to Europeans, and having excellent opportunities of obtaining the plants in general use here as medicines, I have commenced a series of experiments with the more promising of the native remedies that have come under my notice, and hope to communicate from time to time the results, whenever I obtain evidence that any of these remedies are deserving of more scientific investigation than is possible with the means at my command in this colony.

The drug to which on the present occasion I desire to direct the attention of the medical profession, is one which is hitherto entirely unknown out of Africa as possessing medicinal properties, and belongs to a family of plants concerning the medicinal qualities of which but little has hitherto been recorded.

Botanical Characters.—As generally met with on the West Coast of Africa, the plant is a straggling tree, from seven to fifteen feet in height, bare below, but leafy at the summit of the trunk and branches. Under favourable circumstances it grows to the height of seventy feet. The natives employ it in making fences around their compounds, and especially around their fetish grounds; the only reason for this selection that I have been able to discover being the hardiness of the plant, which readily grows when so employed. The plant belongs to the natural order, *Bignoniaceæ*, an order which has not as yet received the attention which it deserves from pharmacologists. In the "National Dispensatory" of Stillé and Maisch, and in Johnson's "Medical Botany of North America," the medicinal properties of *Bignonia Catalpa* and *B. capreolata* are briefly referred to; and in the *Pharmaceutical Journal*, September 1, 1888, p. 162, reference is made to the therapeutical uses of the *Tabebuia longipes*, or white cedar of British Guiana, a plant of the same natural order. Moloney refers to a species of Newbouldia called *Kindee* or *Brochee* in Sierra Leone, used by the natives of that place in fevers; to *Spathodea campanulata*, used in the treatment of ulcers in Gaboon; and to *Kigelia pinnata*, used by the natives of the Gold Coast in rheumatism and dysentery.

My first experience of the drug was while a youngster at Sierra Leone, where it was first administered to me for the acute malarial splenitis, so common among children in that unhealthy peninsula. A decoction of the bark of the trunk and roots was given internally, and over the enlarged and painful spleen a poultice consisting of the bruised leaves, with native spice (*Habzelia aethiopica*), was put on quite hot. The relief was always certain. In 1879 and 1880, when in practice at Sierra Leone, I used the drug with success in all acute malarial enlargements of the spleen. It was about this time I obtained my knowledge of the influence of the drug on the uterus. I found out accidentally that the decoction was largely used in the treatment of the puerperal state by the Susus and Timanis (native

tribes around Sierra Leone), among whom it was the sovereign remedy in *post-partum* hæmorrhage. Uufortunately, it was often combined with the native spice already referred to, so that although good results were obtained in many cases, it occasionally failed in others. This I soon discovered was due to the effect of the spice.

The contractile power upon the spleen and uterus displayed by the drug led me, while in the Quittah district in 1881 and 1882, to its trial in the treatment of dysentery due to an atonic condition of the large intestines, and my results were so satisfactory that I was led to employ it in all cases of dysentery that came under my care in my dispensary practice in that district. My subsequent experience in the wards of the General Hospitals at Accra and Lagos, of the utility of the drug in all cases of dysentery, induced me to forward specimens of it to Professor Sydney Ringer, of University College Hospital, London, in 1883, with a view to its further investigation. These were handed by him to his colleague Mr. Gerrard for chemical examination, but as he found no alkaloid, he was discouraged and did not continue his researches. I have since used the drug in my private and public practice, and it has been employed also by some of my colleagues in the treatment of dysentery, as met with on this coast, with complete success.

In short, in all conditions indicative of atony of the involuntary muscular fibre newbouldia is useful.[1] In all passive hæmorrhages it appears to be useful when given in full doses. It seems to act in moderate doses upon the involuntary muscular fibres generally as a tonic and alterative, and in large doses as a direct stimulant. What the precise nature of its action in dysentery is, I cannot say. Certainly it is not simply as an astringent. Possibly it is by modifying the circulation in the intestines by its action on the muscular coat of the arteries, and of the intestines, and probably of the spleen also, thus producing tonic and alterative effects upon the diseased mucous membrane. And here I would draw attention to the following pregnant remarks of Sir Thomas Watson: "The very frequent coincidence or alteration—in some places—of dysentery with intermittent fever has given rise to the opinion that both these diseases are alike attributable to the malarious poison. But dysentery prevails where there is no other evidence of the presence of malaria. You may recollect that when we were upon the subject of ague, I showed you that its repeated paroxysms were attended with extreme and increasing congestion of blood in the internal organs, of which congestion, the tumid spleen, the so-called "ague-cake," was an effect and a token. Now whatever gorges the splenic vein, gorges its tributary, the inferior mesenteric, which carries the blood from the rectum and the descending colon. Upon such congestion of the mucous membrane, inflammation is readily engrafted, and in this indirect way dysentery may be said to result from the marsh effluvia. Ague is an effect of malaria; and dysentery is sometimes a sequela of ague. In precisely the same manner dysentery is apt to supervene—in hot climates especially—upon hepatic congestion and disease."—["Practice of Medicine," fourth edit., vol. ii., pp. 541, 542.]

Preparations.—The preparations used by me have been (*a*) *decoction* of the fresh bark of the trunk and roots; (*b*) *fluid extract*, prepared by maceration and percolation, of the strength of one of bark to five of rectified spirit. Dose of the *decoction*, one to two ounces; and of the *fluid extract*, fifteen to sixty minims. In the first stage of dysentery the treatment is preceded by a full dose of castor oil in ordinary cases, or a saline purgative when there is more blood than mucus in the stools. As soon after as the bowels have acted twice or thrice, I give full doses of the drug, and repeat these until the bowels are constipated; the administration is then continued at less frequent intervals until there have been no stools for at least twenty-four hours. Then according to the circumstances, the drug is either continued in smaller doses for a few days, or discontinued altogether. A final aperient may be necessary to complete the cure.

Occasionally newbouldia, especially when given in full doses, produces *griping*; this I overcome by giving it with the *tinct. chlorof. co.* and occasionally with some preparation of *Morphia* (which I prefer to opium in cases of dysentery).

It is hardly necessary to add that in all cases of dysentery no matter what the nature of the medicinal agents employed, *dietetic treatment is essential* in the successful management of cases.

In administering to females, it should be borne in mind that this drug stimulates the uterus and may therefore, as I have known it do, cause a premature appearance of the menses, or produce abortion.

I trust that the above remarks will be sufficient to indicate, to a certain extent, the line of usefulness which may be followed out in further experiments in the continents of Europe or America with this interesting drug.

[1] I hope to publish in due course my observations, from clinical experience, on the pathogeny of dysentery on this coast.

ALBUMINURIA IN ITS RELATIONS TO LIFE ASSURANCE.[1]

By A. Rabagliati, M.A., M.D.,

Medical Adviser to the Friends' Provident Institution.

A group of cases which have recently come under my observation leads me to make some remarks on this subject. As we shall see, there is no agreement among medical advisers to insurance companies on this most important question, and there is, in consequence, no uniformity of behaviour among the offices in their dealing with the public in regard to it. I must confess at the outset to taking a somewhat grave view of albuminuria in its bearing on the expectation of life; but there is a firm basis of facts on which opinion as to the value of such lives may be founded, and I think that by paying attention to these facts greater certainty as to the true value of the lives affected may be reached, and greater uniformity of practice, therefore, may be attained. Of course each case must be decided on its own merits in respect of personal history, the general impression the life makes on the medical examiner, and the constitutional or family history of the applicant. As to the general impression conveyed to the medical examiner, and by him transmitted to the insurance company, as that is wholly a matter of skill, experience and intuition, I do not propose to take up time in discussing what each examiner and each office must gauge for himself and itself. Here, if anywhere, genius comes in, and an examiner will be right or wrong according to the amount of his experience and the intuitional power he is possessed of, while the office will follow his advice implicitly, or make some modification in the

[1] Read at the British Medical Association Meeting in Leeds, August, 1889.

course suggested, according to the amount of confidence they place in him.

In order to get at once to the heart of the business I will relate a case which occurred to me in the beginning of 1888, merely premising that, after the curious sequence prevailing in organic affairs (in accordance with which one experiences a run of cases of a certain kind in a short time, which cases may be wholly absent, or occur only rarely during many years immediately succeeding) this case proved to be the first of a succession of about eight cases presenting very similar features. A man, aged about forty, presented himself for examination. He was about five feet ten inches high, weighing about thirteen stones, well built, vigorous looking—perhaps a shade too stout—measuring about thirty-eight inches round the waist, and about the same round the chest, with full, easy, and regular respiration, and nothing abnormal about the lungs. The apex beat in the fifth interspace below and not outside the nipple; no reduplication of first sound or accentuation of second; pulse steady, soft, and regular, seventy. Personal history good; had never had any but slight illnesses. He was not a teetotaller, but described himself as strictly temperate—had, for instance, never been drunk in his life—although giving one the impression of being what is called a free liver, and perhaps taking rather more alcohol than was physiologically good for him. To come to particulars, he took say two pints of beer or a pint of champagne, with perhaps a couple of glasses of sherry during the day, and two glasses of whisky and water at night. There were no nervous symptoms, no tremulousness of hands, no defect of vision or other special sense (did not use glasses). Bowels regular, tongue clean, no hepatic engorgement, no piles, appetite good. Had no urinary troubles; did not get up at night to make water. The water is muddy, he says, from time to time; but whenever he has consulted his doctor about this he has been told there was no organic disease, only indigestion. I was just commencing to congratulate myself on having an average life to deal with, and had just said to him that I thought he ought to pass, when, on asking him for a sample, I found the urine acid, 1024; no sugar, but containing a trace of albumen. On microscopic examination it showed abundant specimens of oxalates. I found no casts in that specimen. On making this unpleasant discovery repeated specimens were asked for and carefully examined. On one of these occasions the following was the state of things: Three specimens were taken. No. 1 was passed before bedtime. Some fleecy sediment appeared in all the specimens (some 7 per cent.) on standing for some hours. To the microscope it contained oxalate of lime and a few leucocytes; 1024; acid; albuminous. No. 2 was passed on rising in the morning. It had the same characters, but one or two faint hyaline casts were also found. In No. 3, which was passed after lunch, the characters were the same, but the oxalate of lime crystals were small, the leucocytes more numerous. There were a few faint hyaline casts and one or two granular ones, and there was also a fungoid growth mostly in a four-celled moniliform shape. This gentleman was seen by the London examiner of the company to which he proposed, and took in addition the opinion of a distinguished London physician, who both found albumen and oxalates, but failed to find casts.

Very strangely, within a month I had had three more cases exactly similar, in which the same combination of a faint trace of albumen with oxalates was present. No casts were found. All were, I ought to say, rather free in their use of alcohol. But I had also another case, almost exactly similar, in which the man took exceedingly little alcohol—not more than a glass of light ale at dinner time—and often none at all. In this last case I was confident, however, that a small oxalic stone formed in the right kidney, and when this got away the man recovered and remains well. I may add, that some years ago, he had an exactly similar attack, from which also he recovered. But except this one, all my cases of albuminuria with oxalates were in men who ate and drank freely, and whose habits, therefore, in both these respects tended to the production of gouty or lithæmic nephritis. In each of the four first named cases the offices concerned rejected the lives, but allowed a further examination, if desired, after the lapse of twelve months (in some instances less). Now the after history of these cases was very interesting. All but one recovered; that was case one, which, on examination eighteen months after, proved to be in the same state as to the presence of albumen, oxalates, and the presence of a few casts, as it had been before. Case 2 was examined again in a short time, having in the meantime gone on a restricted diet, and also having submitted to a considerable reduction of alchohol; and, as he was albumen-free, he was accepted by an English office (not the Friends' Provident I may say, and I may add I am not dealing in this paper mainly with the experience of that office) at the ordinary rates. His age was twenty-eight years. Case 3 (also aged twenty-eight years) got quite well under similar treatment, along with the free use of a mineral water found near Vichy *(Source anonyme)*, and was to come up again for examination for an English life office, but has not yet done so.

Judging from my experience of the behaviour of that office, I have little doubt they would have accepted the life on the disappearance of the albumen, had he come up as they wished. Case 4 was aged forty years. No doubt this man, as a rule, takes too much alcohol; but he got a fright when albumen was found, reformed his ways, abstaining wholly from alcohol, and much diminishing, at my instigation, his nitrogenous food; and in a couple of months his urine was albumen-free, and normal in all respects. He re-applied to the office (an American one), was reported sound; the London office of the Company issued a temporary policy, but when the the American Board sat on the case, they would not look at it, and unconditionally rejected the application. This shows a great difference of practice in offices. But the after history of this case is instructive. Whether under the influence of the disappointment of being rejected or not, I cannot say, but applicant has since then returned to his old habits, and both the albumen and the oxalates have returned. For him, at least, the only chance of life, and any degree of health, is total abstinence from alcohol, and the use of flesh sparingly. As these conditions are difficult of attainment, and as an office hardly could issue a policy, conditionally on their being maintained, it seems as if that office had acted wisely in rejecting the application.

The fifth case I have mentioned did not apply for life insurance, but if he had done, I think I should have recommended him probably at a small advance. I know him to be systematically abstemious, both in eating and drinking, and believe that (accidents excepted) he will probably attain the average duration of life. Now I come to two other cases of albuminuria—cases 6 and 7.

These differed from the previous ones in this, that there

were no oxalates stated to be present: in one, no statement was made (the age thirty years) as to oxalates; sp. gr., 1020; acid; no sugar; trace of albumen; London physician recommended six to seven years advance, and I agreeing, the office granted the application. In case 7, the applicant was forty-eight years old, a stout man, whose urine was on three different occasions acid; 1029, 1027, and 1025 sp. gr.; each time loaded with lithates, and each time showing a trace of albumen. No statement was made about casts. The examiner said he attributed little importance to the conditions, and recommended either no advance or a small one. On considering this case, it seemed to me that the high sp. gr., the lithates, and the albumen together, constituted a dangerous combination, in fact, that they suggested lithæmic nephritis; and I felt compelled (notwithstanding that no statement was made that there was either reduplication of the first sound of the heart, or accentuation of the second) to recommend a considerable advance of seven to ten years. I do not know that there is any advantage in multiplying cases; but I should like just to refer to an eighth, where the applicant was fifty-three years of age, and whose urine was 1012, acid, without sugar, but showed, in the first sample, taken in the forenoon, 5 per cent. of albumen. A morning sample showed a trace; an evening sample was albumen-free. Postponed for three months. On re-examination at the end of that time, the facts were: 1008, acid, no sugar, and trace of albumen. The medical examiner attributed little or no importance to the condition, and recommended acceptance of the risk at a slight increase. I could not take so favourable a view, and recommended a heavy advance, saying, that the most I could recommend was an endowment policy payable at sixty-five years, and that on that I would recommend a 20 per cent. advance.

Now the question is—can we suggest any principles on which these cases should be settled? And are there any facts whose consideration may lead to more definite and precise dealing with them? It is of comparatively small moment to quote authority. Dr. George Johnson, in a paper appearing last February, and written in part to refute an erroneous statement made regarding his views on albuminuria, says, that "the presence of albumen in the urine, though small in amount and occasionally intermittent, is always pathological." And again, "No prudent medical officer would advise that a proposed assurer with a trace of albumen in the urine should be accepted at the ordinary rate of premiun."

Dr. Saundby, on the other hand, lays stress on the fact that albuminuria may persist for years without disease of the kidneys being set up. In one case he quotes, he says, "that the albuminuria has lasted for twenty-one years without the supervention of renal disease." Our knowledge of facts of this sort (if facts they be) is recent. Dr. Grainger Stewart found albumen in about one-third of 505 persons who were presumably healthy; but among these, sixty-two out of 100 persons, about or over sixty years of age, had it; among 100 children it was found in only seventeen. But the question remains: Would it have been safe to insure Dr. Saundby's case at ordinary rates twenty-one years ago, or would it be safe now? And would it be prudent to accept Dr. Grainger Stewart's sexagenarian albuminurics at ordinary rates, or does his inquiry not rather prove that more persons have crippled renal organs than is commonly supposed? I confess that is my reading of the evidence. Dr. Lauder Brunton says, "it would be as grave an error to assume that every individual who has albumen in the urine is suffering from serious disease, as if we were to suppose that every patient whose urine contained sugar was necessarily suffering from diabetes." But there is surely a great difference between sugar and albumen in this, that the latter ought not to be found in urine at all; while the former is always present to some extent (at least, I have always found it, since learning to treat for it quantitatively, when I have looked carefully enough for it). Dr. Parkes found temporary albuminuria in 12 per cent. of his hospital cases. Again, it was found by a New York life insurance company that 9 per cent. of all persons applying for life insurance showed signs of albuminuria. It seems to me that the American insurance offices are disposed to think more gravely of the presence of albuminuria than some, at least, of the English ones; at least, if I may judge from my experience, and from the fact that Dr. Stillman, in his "Life Insurance Examiner," says, that "the continued presence of albumen in the urine is sufficient cause for rejection *without the co-existence of any other symptoms*." How different is this view from that of many of our authorities in England, and how different must be the practice of offices advised by men holding views so opposite!

When, say a trace of albumen, is found in the urine of an applicant for insurance, the following course should, I think be taken. First of all I take it the presumption is against the life. A man with albuminuria is not so good a life as one without it. Even those will I think admit this who contend that the presence of albumen is not *necessarily* a serious sign; even they would prefer not to have found it. The next point is to determine the sp. gr. Is the sp. gr. above 1020? Then we have a *suggestion* of lithœmic nephritis, either present or in prospect, for we know that the continued passage through the kidneys of urine, loaded with excess of nitrogenous waste, is of itself a common cause of gouty kidney. Is, on the other hand, the sp. gr. below 1010? Then we have a *suggestion* of a more advanced state of degeneration in the kidney, especially if we find that the low sp. gr. is a constant and not a temporary phenomenon. In either case we must examine for casts, and we ought to get several specimens of urine for this purpose. As pointed out by Dr. Saundby, that passed between breakfast and early dinner is the most favourable for finding them. Of course failure to find casts is not a proof of their non-existence. Ability to find them depends very much on the power of the observer. I may observe that staining the slide with methyl blue is a great aid in this direction, so great in fact, that if they do not appear after this process I incline to think they may be confidently pronounced absent. I suppose if casts are present we ought to counsel rejection, or at least a very heavy advance if the life be young, and absolute rejection if over 45-8. But if casts co-exist with constant sp. gr. of 1010 or less, reject absolutely. Along with these facts must be considered the state of the heart. A low sp. gr., with trace of albumen, casts, and reduplication of the first sound of the heart, with accentuation of the second sound, would compel any examiner to advise absolute rejection at any age.

Again, if we have sp. gr. over 1020, and suspect commencing lithæmic nephitis, we ought to look for other signs of gout or goutiness, as pruritus ani, gouty eczema, intermittent heart's action, or other marks. I have known two or three cases now where intermittent heart was the

only mark of gout, and where the condition was cured by the patient ceasing to eat meat. The gout that is often enough present in teetotallers is frequently, I am persuaded, due to the over-ingestion of nitrogenous food, although excess of food of any kind is apt to induce it, especially if associated as it often is with want of exercise.

Another most important point of course to consider is—what amount of alcohol is applicant in the habit of taking? Free stimulation is, no doubt, a potent cause of gouty kidney, or of the nephritis that from time to time attacks persons who are not yet affected permanently with any form of renal lesion; and if our applicant indulges in a free use of alcohol, and has a trace of albumen besides, we are bound to think more gravely of his case than if he were an abstainer, or took only an ounce of alcohol daily. As to oxalates co-existing with albuminuria, I have no wish to spend time on the discussion of what is at present more or less of a speculative question, but will only say I have been able to cure several such cases in young persons. I incline therefore rather to the postponement than to the absolute rejection of applications for insurance from young persons suffering in this way. If at the end of say six months it is found that the condition has been removed, I think we may consider the feasibility of accepting the risk, although I think even then it should be at an advance, for the reason I mentioned before, that those who have once had prolonged albuminuria (unless indeed it was due to acute nephritis, in which case it might be perfectly recovered from without damage) are not quite such good lives as those who have never shown it. Also the case quoted above (No 4) shows that if the condition can be removed, it may also readily return; and therefore, I think we ought to be very cautious in recommending such risks for acceptance.

Lastly, there is the question, supposing we entertain the application, and think we ought to recommend acceptance at an advance, what amount of advance would be at once safe for the company and fair to the assured? It is not unreasonable to assume that persons showing such signs are more likely than those who are free from them, to die of some form of disease of the urinary system. This being granted, the question becomes narrowed considerably to one of experience. Dr. Saundby states the proportion of deaths due to urinary disorders as being something like 1.1 or 1.2 per cent. of the total deaths; but it does not seem to me that this kind of comparison is of any value, because, to begin with, something like 40 per cent. of all deaths occur among children under five years of age, and it is well-known that very few indeed of these die of urinary disorders. Further, insurance examiners have hardly anything to do with children under five years of age, *i.e.*, have next to nothing to do with that portion of the population who furnish 40 per cent. of the total mortality. The question is, what proportion of adult deaths (with which alone insurance is concerned) are due to urinary diseases, and at what ages do these deaths occur? Well, the Scottish Widows Office have published valuable information on this point, and in their report for 1881 to 1887 inclusive, they state that out of 3,246 deaths, at all ages, occurring among their assured, 255 or 7.8 per cent. were due to urinary disorders. I thought it would be interesting to discover how this compared with mortality tables among the general community, and for this purpose I took the mortality from urinary diseases among our Bradford population. As most assured are males, I took only the male deaths, and in order to make the comparison as fair as possible as regards age, I eliminated all the deaths under fifteen years of age. I should have preferred to eliminate the deaths under twenty years of age, but the returns not enabling me to do this, I was compelled to take the lower figure. This being done, I found that in the three years 1884, 1885 and 1886, there occurred 3317 deaths among males in Bradford over fifteen years, which were to be compared with an almost equal number—3246—dealt with by the Scottish Widows' Company in the years 1881-7. Of these 3317 deaths, 116, or 3.4 per cent. were from urinary disorders. It appears, therefore, that comparing the mortality among a mixed male population above fifteen years old, with the specially selected class of lives insured with the Scottish Widows' Company, less than one half (3.4 per cent.) were due to urinary disorders in Bradford of the proportion (7.8 per cent.) found among the *clientèle* of the Insurance Company. I think the general inference is irresistible, that the well-to-do insured are more liable to these diseases than are a similar number of males belonging to a mixed community. (For males and females I may observe, in Bradford, the percentage of deaths from urinary disorders was 2.8 during those years.) I think the comparative frequency of these diseases among the well-to-do ought to make us additionally careful what symptoms we allow to pass us in recommending lives for acceptance. To use an expression which has obtained some currency, and owing I imagine to the custom of the well-to-do to over-load the digestive system, and to refrain too much from the healthy influences of manual work, we may say that this evidence lends force to the view that the mortality of the "classes" from these diseases is considerably greater than that of the "masses."

Nextly, according to the experience of the Scottish Widows' Office, the average age at death of those who die from urinary disorders was 62.3 years, a pretty long age. But those dying of "disease of kidneys" and "nephritis" (who formed 4.3 out of the 7.8 per cent. due to urinary disorders) only averaged 56.8 years of age.

It will be interesting to compare these results among the *clientèle* of the Scottish Widows' Fund and those which obtain in a mixed population such as is found at Bradford, with those of an American insurance company. There has just been published a very elaborate report by the Washington Life Insurance Company, of results extending over twenty-seven years, and dealing with 2,000 deaths. Of these, 123, or 6.15 per cent., were due to "diseases of kidneys, and other diseases of urinary system" (against 7.8 in the Scottish Widows' Fund, and 3.4 per cent. in Bradford); while the average age at death was 52-64 years. Of cases dying from "Bright's disease, congestion of kidneys, disease of kidneys and nephritis," there were 103, or 5.15 per cent., among the Washington Life Co.'s *clientèle*. (This compares with 4.3 of the Scottish Widows' Fund, and seems to show that our well-to-do American brethren suffer even more than we do in England from these affections, and also that they die earlier.) Of course, too much must not be founded on these figures. It will at once be said that many sufferers from kidney disease die, not of kidney disease directly, but of cerebral hæmorrhage. While this is true, I still think some advantage is to be gained from a study of the figures, and that to some extent they may be taken as a guide. Even if kidney disease should terminate in apoplexy, as it often does, we shall be within the mark in thinking of fifty-seven years as the expectation of life

in such cases, for the Scottish Widows' Fund experience is that of cases dying of apoplexy, the average age at death is sixty-one years. There therefore seems to be a great probability that over so large a number of cases, extending over a good many years, we do get a fair indication of the expectation of life among persons suffering in this way; and I am therefore disposed to suggest that where the albuminuria is slight enough to warrant us in entertaining the idea of accepting the life at all (and, of course, where complications exist, or an aggravated condition without complications, we should reject absolutely), our rule ought to be to rate up our lives to such a point as if we expected them to terminate at fifty-six or fifty-seven years. This is, as medical men know well, a very common age for chronic disease of all kinds to terminate. No doubt this is a serious view to take of such lives, though it is not, I believe, any more so than the facts warrant. Neither is it so serious for young lives as for older ones. At twenty-eight years of age, for instance, a healthy man may be expected to make thirty-six payments—which would make him sixty-four years old at death. For the slight albuminuria of twenty-eight, the new expectation would be twenty-nine years in place of thirty-six. But a man of forty, who might in the usual course live to make twenty-seven payments, has his expectation reduced to only sixteen or seventeen, which is a very serious addition indeed, and one which comparatively few applicants for insurance would accept. At forty-five the expectation would be reduced from twenty-four payments to eleven, which sounds very much like absolute rejection; and my opinion, I must say, is that at this age absolute rejection ought to be the rule. Of course, I have assumed that the albumen, supposed to be present, is not due to cystitis, which is a comparatively simple question to determine.

My general conclusion, therefore, would be: Rate up a young life showing albumen (if, of course, on general grounds you think it should be entertained at all) to an expectation of fifty-six or fifty-seven years; rate lives between, say, thirty and forty-five proportionately; and rate up heavily or reject altogether lives from forty-five to fifty years with this feature present. The question of offering an endowment policy, payable at fifty-five in such cases, is one for the Company's actuary. It seems to be another way out of the difficulty. The man who asks for such a policy to some extent favours the office at the expense of himself, since on the most favourable supposition he agrees to pay larger premiums than would be necessary at his age; and in the event of his death, say in ten years, the company would have received more from him than they would have done on an ordinary whole-life policy; while, of course, the chance of his death is not affected by the nature of his policy. But the question arises whether it would be fair to the other lives insured under the same endowment plan to admit invalid lives who might intefere with the prospects of bonus and profits to the other members of the class. For which reason I merely mention this plan as a suggestion, to be dealt with by the proper actuarial authorities. It seems to me, however, that the suggestions here made utilise facts which have been determined on a large scale, and over a long time, by actual experience, and so point the way to enable medical referees to offer more uniform advice to insurance companies, who may in turn adopt a more regular course in dealing with their clients in reference to this most important question.

A NEW ANTISEPTIC DRESSING.[1]

By Sir Joseph Lister, Bart., F.R.S.,
professor of clinical surgery in king's college.

Mr. President and Gentlemen,

When I last had the honour, five years ago, of addressing this society at the request of its president, I brought before you an attempt I had make to utilise the powerful antiseptic properties of corrosive sublimate, without the great disadvantages attendant upon its highly irritating qualities. I had ascertained that when corrosive sublimate precipitates albumen, the precipitate is not, as had been generally supposed, an albuminate of mercury, that is to say, a combination of albumen as an acid with mercury as a base; in other words, that the albumen does not displace the chloride from its combination, but that the bichloride of mercury retains its properties intact, the albumen being loosely associated with it, in a species of solid solution, if I may so say.

Further, I had found that this precipitate, even after drying, is capable of being dissolved in the serum of the blood, and that the solution in blood serum is powerfully antiseptic, while not irritating. I proposed and brought before you a new dressing in the shape of what was termed the sero-sublimate gauze, charged with a solution of corrosive sublimate in the serum of the blood. This gauze gave very satisfactory results, both in my own hands and in those of surgeons in places so far distant as Poland and Spain. Nevertheless, it was not all that could be desired by any means; it was somewhat harsh mechanically; it was not very absorbent, a serious defect, and one of the materials of which it was made, the serum of horse's blood, was not always easily obtainable. I was, therefore, well disposed to look for something superior.

A few weeks after that communication was made to the society, a firm of manufacturing chemists, Messrs. Gibbs, Cuxson and Co., wrote to me, saying that they had found that if chloride of ammonium or sal-ammoniac in quantity equal to one-fifth part of the weight of the bichloride of mercury was added to the mixture of bichloride of mercury and blood serum, the result was a much more fluid preparation than I had obtained. If I used a preparation of 1 part of bichloride of mercury to 100 of blood serum, I got a thick liquid somewhat difficult to diffuse in gauze. They therefore suggested that by adding sal-ammoniac in that proportion, I should get a much more workable arrangement. On consulting chemical works, I found that one-fifth of sal-ammoniac was exactly sufficient to produce with bichloride of mercury the salt long known to chemists as sal-alembroth, a double salt of bichloride of mercury and chloride of ammonium. I naturally wished to ascertain whether this addition of sal-ammoniac would impair or even destroy the antiseptic properties of the bichloride of mercury. I therefore made experiments on the point, and I found that the sal-ammoniac associated in the form of a double salt with the bichloride of mercury did not by any means impair its antiseptic properties; on the contrary, it improved them, so far at least as concerned that which we have to deal with as surgeons, an albuminous fluid like the serum of the blood. Sal-alembroth and bichloride of mercury proved to be exactly equivalent weight for weight as antiseptics in such a fluid. Each had to be used in normal serum of specific gravity of about 1025 in the proportion of nearly $\frac{1}{1000}$, in order to prevent altogether the development of micro-organisms. Those who

[1] Delivered before the Medical Society of London, November 4th, 1889.

are acquainted with Koch's researches will consider this a very high proportion. Koch has shown that in a solution destitute of albumen, $\frac{1}{100000}$ part of bichloride of mercury is sufficient to prevent the development of organisms; but when we have albumen present in the solution, the case becomes altogether altered. Albumen interferes with the antiseptic action of corrosive sublimate, and thus in serum of the blood of specific gravity 1025, we require, as I have already said, as large a proportion as about $\frac{1}{1000}$ instead of $\frac{1}{100000}$.

When the albumen is small in amount, less corrosive sublimate proves efficient. Thus in a case of spermatocele, where the specific gravity of the fluid was exceedingly low —only 1007—I found that $\frac{1}{10000}$, just intermediate between the proportions required for blood serum and water was efficacious. On the other hand, when blood-corpuscles are mixed with the serum in the same amount as in the circulating blood, making the albuminoid substances much more abundant than in serum, we require proportionately more of the corrosive sublimate; at least 1 to 500 is required for the purpose of preventing development. This is a most important consideration after an operation. In the first twenty-four hours the discharge contains a large amount of blood-corpuscles, as well as serum, whilst, at the same time, it is the most copious, more copious than it will be in any subsequent day, provided all goes well aseptically. It is, therefore, an exceedingly serious consideration, that in the first twenty-four hours we have a discharge which, in both these respects tests our antiseptic more severely than it will ever be tested again, both from its abundance and from its quality. Still the sal-alembroth, whether used with blood serum or with a normal mixture of serum and corpuscles, such as that obtained by whipping the blood of the ox so as to get rid of the fibrin, proved equivalent antiseptically to bichloride of mercury.

I may, perhaps, say in a few words how the experiments were conducted. For the purpose of ascertaining whether a given antiseptic can or cannot prevent development of organisms, a very simple mode of experimentation suffices. What we have to do is to ascertain whether it is *inhibitory;* not whether it is *germicidal.* The only special apparatus required for such experiments is a warm chamber, which can be kept pretty constantly about the temperature of the human blood. Beyond this, a few stoppered bottles, with well-fitting stoppers—perhaps half-ounce stoppered bottles —are really all that is required. Into a series of such bottles, serum of the blood, to the amount say of 150 grains, containing solutions of the antiseptic of different strengths is introduced. These are all inoculated by means of a small syringe pipette with the same quantity, say 1-10th of a minim, of some potently septic liquid, such as blood serum in a state of advancing putrefaction. The bottles are placed in the incubator, and then, if development takes place, that is evidence that in the bottle in which it occurs such proportion of the antiseptic as that bottle contains is inadequate; if no development occurs we have proof of antiseptic efficacy. The transparency of the serum permits a recognition of the development of the organisms, which invariably causes opacity. If we have no change in this respect, if the serum maintains its transparency, at the same time keeping its odour unimpaired, and further, if microscopic examination of any little sediment there may be shows that it contains no organisms, we have clear evidence that the antiseptic in the proportion concerned has proved efficacious.

Now, if the sal-alembroth was equivalent to the bichloride of mercury weight for weight, that shows that the sal-alembroth was really more efficacious as regards the quantity of bichloride of mercury it contained. The bichloride of mercury having the sal-ammoniac added to it, and also water in the double salt that is formed, is increased in atomic weight very considerably; and therefore if an equal weight of alembroth is equal in antiseptic action to bichloride of mercury, that shows that the bichloride of mercury is made more efficacious in the blood serum by the addition of the chloride of ammonium. The chloride of ammonium in combination protects the bichloride of mercury, so to speak, to a certain extent, from the interfering influence of the albumen.

At the same time, the sal-alembroth proved much less irritating than bichloride of mercury. Experimenting on my own skin, I ascertained that it has certainly not half the irritating property of corrosive sublimate. The chloride of ammonium attached to the bichloride of mercury, while it protects the bichloride in some degree from the influence of albumen interfering with its antiseptic operation, prevents it also from acting so powerfully on the human skin. And thus the union of sal-ammoniac with corrosive sublimate had the double advantage of rendering it both more efficacious antiseptically and much less irritating.

Hence I was at first much pleased with sal-alembroth. But it soon appeared that there were certain disadvantages attending it. These depend very much upon its excessive solubility. It is essential for a satisfactory antiseptic dressing that the antiseptic should not be readily washed out of it by the discharge. Sal-alembroth is so exceedingly soluble that it is washed out with the greatest ease; thus we were always, even if we used large masses of sal-alembroth gauze, in fear that when discharge was copious the antiseptic would disappear, say within the first twenty-four hours, and then the septic mischief would have an opportunity to enter. There was another disadvantage from this great solubility. When the discharge entered a mass of the sal-alembroth dressing it dissolved out the alembroth from it, passed into another part of the dressing, and there took up another portion of the sal-alembroth, and so went on from part to part of the dressing, until if the discharge was copious and the dressing large, as it must be when the discharge is copious, before the discharge got to the edge of such a dressing it became so concentrated a solution of the sal-alembroth as to be highly irritating. We have seen, for instance, after the removal of the mamma, when the first dressing is changed on the following day that there has been over the scapula and the neighbourhood a huge blister. No doubt that was only a temporary inconvenience. We never had the discharge again so great as in the first twenty-four hours; but still it was a great inconvenience.

Such being the disadvantages of sal-alembroth dressing, I was disposed to seek for something better. I may say that I myself have never published anything in favour of sal-alembroth dressings; I have never been satisfied with them. It has leaked out that I have used them, and they have come into extensive employment, but never with my published sanction.

In the course of the following year I made various experiments, in the hope of rendering sal-alembroth more useful in different ways, with which I need not trouble you, but without much success. In February, 1886, my attention was drawn by Mr. Martindale, of New Cavendish-street, to cyanide of mercury as possibly a valuable antiseptic, and, if so, having this advantage—that it did not coagulate

albumen. I therefore proceeded to make experiments with cyanide of mercury, and I found indeed that in inhibitory power it was remarkably efficacious. I have said that with blood serum sal-alembroth or bichloride of mercury is required in about $\frac{1}{1000}$th part. I found that the cyanide of mercury kept blood serum, with only $\frac{1}{10000}$th part, perfectly free from organic development, in spite of inoculation with potent septic fluid, for a month, when the experiment ended. I may remark that we have in cyanide of mercury a striking instance of the discordance that there may be between inhibitory power and germicidal power in an antiseptic. In inhibitory power the cyanide of mercury is, as we have seen, exceedingly high; but in germicidal power it turns out to be very low. Mr. Cheyne has made experiments for me, which have shown that even $\frac{1}{1000}$th part in water is incapable of destroying the germs of bacteria. Still the inhibitory property of cyanide of mercury was a most important point, if in other respects the salt was not disadvantageous; but, unfortunately, it proved to be so highly irritating, that the greater irritating property of the cyanide of mercury more than counterbalanced its superior inhibitory power. It naturally occurred to me that the cyanide of mercury might perhaps combine with some other cyanide and form a double salt, having advantages corresponding with those presented by sal-alembroth as compared with bichloride of mercury. I tried the soluble double cyanide of mercury and potassium, but found it quite too irritating. I here again consulted Mr. Martindale, and he mentioned to me that in Watts's *Dictionary of Chemistry* it is stated that a double cyanide of mercury and zinc of very slight solubility may be formed by mixing together a solution of the double cyanide of mercury and potassium with a soluble salt of zinc, the zinc taking the place of the potassium. I therefore obtained some of this material, and proceeded to make experiments on it. I ascertained, in the first place, that it was quite insoluble in water. This seemed at first extremely unpromising. It was soluble in about 150 parts of glycerine, but insoluble in water. I found, however, that it was soluble in about 3,000 parts of blood serum, and therefore it was possible that it might work antiseptically. I made experiments to ascertain whether such was the case or not, and I found that this zinco-cyanide of mercury, as we may call it, had really most important antiseptic properties; that in the proportion of 1-5000th part it kept blood serum perfectly free from the development of organisms for eighteen days, in spite of potent septic inoculation.

I then tried experiments with serum and blood corpuscles as presented in the whipped blood of the ox. On instituting comparative experiments between sal-alembroth, all proportions lower than 1-400th putrefied within twenty-four hours after septic inoculation, while with the cyanide of mercury 1-800th part sufficed to preserve the serum and corpuscles from putrefaction. At the same time with the double cyanide I was much surprised and much pleased to find that 1-1200th, half as little again, was sufficient to keep the mixture of serum and corpuscles permanently free from putrefaction. It may be said that the absence of putrefactive odour is but a rude test. There may be organisms developed without any putrefactive odour being present; that is perfectley true. At the same time, if in a given experiment we find that with one agent putrefaction occurs within twenty-four hours with 1-400th part, while with another salt there is no putrefactive odour after a lapse of weeks with 1-1200th part, we have pretty conclusive evidence that, so far as the mixture of corpuscles and serum is concerned, we have a more efficacious antiseptic in the latter. I therefore proceeded to prepare dressings of this new substance, diffusing it—for it is an exceedingly fine powder—in water, with a little glycerine added to fix it, to prevent it from dusting out. If you simply diffuse it in water and pass gauze through it, with nothing more than the water, the resuls is that you have gauze which, with the slightest touch, gives out the double cyanide in a cloud of dust, which produces not only inefficacy of your dressing by loss of the proper proportion of the substance, but becomes in the highest degree irritating to the nostrils of those who are near. A little glycerine, however, prevented the double cyanide from thus dusting out. I proceeded to try it in practice. I confess I did not dare to use it—considering its very slight solubility in serum—unmixed, and I associated with it some of the very soluble cyanide of mercury; and with this cyanide gauze we tried various experiments in the way of dressing and got some admirable results. But then, on the other hand, there were disappointments. We found, for one thing, now and then very troublesome pustules, as the result of a peculiar kind of irritation. Another disadvantage was that occasionally we got suppurations, coming on at a late period in the case, such as we had never been accustomed to with our carbolic dressings. A case might go on perfectly well for, say, ten days, and then suppuration might occur about a stitch track and spread perhaps further; and sometimes the healing of cases was greatly protracted by this late suppuration. In consequence of these two circumstances I gave up the use for the time being of this material.

I then directed my attention to biniodide of mercury, which has been highly spoken of for its antiseptic powers, and which has the advantage over alembroth of being comparatively little soluble either in water or in serum. I found that the iodide of mercury gauze answered our purpose very well so far as its antiseptic properties were concerned, but that it had the great disadvantage of producing irritation, which it was extremely difficult to control. In order to control it we interposed between the iodide of mercury and the skin, unprepared gauze, except in so far as it was steeped in a weak solution of bichloride of mercury (1 to 400). But we found that different skins differed greatly in liability to this irritation. The iodide of mercury, which is so very slightly soluble, as you know, in water, is much more soluble in serum, and the solution in blood serum becomes irritating. In consequence of this we had the same disadvantages from irritation as we had with the alembroth; and although, as in the case of the alembroth, this was only a transient inconvenience, I became dissatisfied with the iodide of mercury gauze. There was, however, one point of considerable interest, both theoretically and (as it turned out afterwards) practically, which we found in this investigation with the iodide of mercury. If we simply charged with iodide of mercury, say from a solution in spirit of wine, and then applied the gauze so prepared, we found that the particles of iodide of mercury tended to gravitate down towards the skin, and there produce the most fearful irritation. It was absolutely necessary that it should be fixed. I tried various means, and among the rest a solution of starch, and then there came out this remarkable fact, that if a solution of starch is used with one of the ingredients employed for forming the biniodide of mercury by mixing a solution of iodide of potassium with solution of bichloride of mercury—if you dissolve the iodide of potassium in a

weak solution of starch—the iodide of mercury thus formed in the nascent state associates itself with the starch particles in the most intimate manner, and becomes entirely precipitated along with the iodide of mercury. If you take a drop of the red fluid formed by mixing these two solutions, and place it on a piece of calico, the watery material is absorbed by the calico, and passes into the surrounding parts without colouring them, while the red spot with its insoluble iodide remains.

If now you take a little iodine water, and apply it to the part of the calico moistened by the fluid that has exuded, you find that the iodine water produces no blue colour of iodide of starch, showing that there is no starch in the fluid that thus oozes out, and leaves the iodide of mercury behind; whereas, if you take a simple solution of starch and apply it as such to a piece of fabric, as far as the fabric becomes moistened so far do you get a blue colour with the iodine. Here we have, as it seems to me, a somewhat analogous case to the so-called albuminate of mercury. We have the starch particles associated with the particles of iodide of mercury; the starch remains as such, the iodide of mercury remains as such; still they are attached to each other. As so the result was that when such a red solution produced by mixing these two liquids was used for charging gauze, the iodide of mercury was stuck to the gauze by means of the starch, and we had a most satisfactory arrangement in that respect. The iodide of mercury could not be washed out by water, nor did it in the least dust out. The value of this observation with reference to our present subject will appear shortly.

Being dissatisfied with the iodide of mercury, I turned my attention again to the double cyanide of mercury and zinc. Looking back to my notes, I found such evidence of its superior antiseptic properties that I felt that we had deserted this material too readily. In the interval we had had other experience of importance with the alembroth gauze. Occasional late suppurations had at first occurred under its use, just as was the case with the double cyanide gauze. These, however, had ceased to trouble us after my attention had been directed to the expediency of always using mercurial dressings in a moist condition. If they are used dry, the mercurial salt having no volatility, and having no power therefore of destroying any micro-organism in contact with it, whether derived from the manufactory or elsewhere, there could be no security that the dressing when applied was free from living organisms. This important object could, however, be infallibly attained if the dressing were used moist with an efficient germicidal solution. I put this idea in practice, and during the two years that have since elapsed, we have never on any single occasion had to complain of these late suppurations. Might not the same immunity attend our cyanide gauze if we adopted with it the same expedient?

The other objection to this double cyanide gauze had been the irritation which it occasioned. Might not this have been due to the simple cyanide, which, as I have said, I used along with the double cyanide? The simple cyanide is highly irritating, and, just as with the sal-alembroth, being freely soluble, it can be taken up by successive portions of discharge, and, when the discharge is free, may come to be in so strong a solution as to irritate. On the other hand, experiments on my own person had shown that the powder of the double cyanide might be kept applied to the skin for an indefinite time, whether moistened with water or with blood, without occasioning any irritation whatever. If this was the explanation, and if, as our experiments indicated, the double cyanide could be trusted, we might get rid of irritation by using a double cyanide dressing moistened with a weak solution of bichloride, say 1 to 4,000, which, while it is securely germicidal, can never irritate. But here arose a new difficulty. I have told you that when we tried this double cyanide in a gauze at first, in order to prevent the dusting out, with its great inconveniences, we used glycerine; but if we moistened the gauze with 1 to 4,000 solution of corrosive sublimate, we should run great risk of washing out the glycerine, and then the double cyanide would be free to dust out on drying. And, besides that, it must be admitted that the glycerine arrangement was not a good one, independently of that consideration, inasmuch as when the discharges flowed into the gauze they would wash away the glycerine, and then the double cyanide might be washed out also, and so fail in one of the most important requisites of an efficient antiseptic dressing—the storage of the antiseptic in the dressing in spite of the discharge. How was this difficulty to be overcome?

Now came to our aid our experience with the iodide of mercury and the starch. Might it be that the particles of the double cyanide might attract starch as those of the iodide had done? It did not seem very likely, seeing that cyanogen is not known to have the special affinity for starch that iodine has. Still, I though I would try the experiment. I prepared the double cyanide by mixing a solution of the double cyanide of mercury and potassium with a solution of sulphate of zinc. I tried this with one of the ingredients dissolved in a starchy solution; and, to my great satisfaction, I found that the precipitated double cyanide left a supernatant liquor almost absolutely free from starch, and that the particles which thus fell, the double cyanide with the starch associated, fixed themselves to a gauze in such a way that it did not in the least dust when dry. Not only so, but immediately after being charged with the precipitate diffused in water, it might be washed in the wet state without the double cyanide being washed out of it, so closely did the starchy particles stick the double cyanide to the fabric. It is of great importance that in some way or other the double cyanide should be washed, because at the same time that an insoluble double cyanide is formed, there are produced other double cyanides which are soluble, and which are in the higest degree irritating; they must be washed out.

Well, I thought I had thus obtained my object, and that by mixing starch with one of the two solutions necessary for forming this double cyanide and allowing the precipitate to fall then decanting, pouring in more water, and, after precipitation, decanting and repeating the process another time, so as to get rid of all the irritating soluble salts, and then diffusing the precipitate though a gauze I should have all that I desired. But when I tried to get this done commercially I found that I got such blundering as to make the thing practically hopeless. There was nothing for it but in some way or other to get the double cyanide from the chemist as a definite product, and then in some way devise a means of fixing that powder of the double cyanide to the fabric. I therefore naturally tried whether a solution of starch would answer this purpose; whether the starchy particles would associate themselves with the double cyanide particles, not only in the nascent state, which we had before tried, but also when the already formed double cyanide was mixed with the starchy solution was stirred up with the double cyanide in the proportion of one part of starch to two of cyanide, the starch was

almost all precipitated, and the precipitate so formed adhered to the gauze in the most satisfactory manner.

But though its adhesion was satisfactory enough, it turned out that the precipitate thus formed aggregated into a tenacious mass, which could not be diffused uniformly through the gauze, and here I was again at fault. This difficulty was overcome by first charging the gauze with the double cyanide powder diffused in water, and then transferring it to a starchy bath. This at once fixed the cyanide in the gauze: and whereas, before it was placed in the starchy bath, the slightest squeeze made a milky fluid exude, no sooner had it been well penetrated by the starchy liquid than you might squeeze it as you pleased, and nothing came out but a clear fluid. I was much pleased with this, and it is in this way that I have prepared the gauze that I have used for the last twelve months, both in the hospital and in private practice. Still, this method had its disadvantages. When the gauze had been passed through the fluid in which the double cyanide had been diffused without any starch, it required very tender handling. If you gave it a squeeze, out came a quantity of double cyanide; and it was plain that, although one might do it one's self satisfactorily, if we trusted to the manufacturers, there would be an utter uncertainty as to what quantity of material might ultimately remain in the gauze.

Only lately has this difficulty been surmounted. It occurred to me that perhaps if the starch were first blended with the double cyanide, and then dried and reduced to powder, if water were afterwards added to this dried dissolved starch associated with the cyanide, there might not be the same tendency to lumpiness and difficulty of diffusion. I found that the process did not answer quite as I hoped in the first instance, in this respect, that the dried starch and double cyanide were extremely difficult to scrape off from any plate on which they were put to dry, and also very difficult to pound up and to diffuse for charging the gauze. I got rid of these inconveniences by means of sulphate of potash, used for the same reason as Dover's powder—that is, that it is an inert substance, with sharp, gritty particles. Mixing a pretty strong solution of starch with the double cyanide powder and adding to this a quantity of pounded sulphate of potash, the result is that you get a material which, after drying, is easily scraped off by the manufacturer and easily reduced by him to an impalpable powder, which is then readily diffused in water, and makes a perfectly uniform gauze. Being mixed in large quantity with water in order to charge the gauze, the sulphate of potash is practically got rid of, and if any of it remains it does no harm, because it is inert. Thus we have the means of easily charging fabrics with this double cyanide.

I have spoken of diffusing this preparation in water, but in reality we employ for this purpose the 1 to 4-000 solution of bichloride of mercury, which fortunately does not in any way interfere with the process. I may remark that the double cyanide, like the simple cyanide of mercury though very efficient as an inhibitor, cannot be trusted as a germicide. There are different ways in which absorbent gauze such as this may be charged. One is to pass it folded in about sixteen layers through a trough, such as the one before me, which I myself used, having a bar near the bottom to ensure the gauze being kept well under the liquid. It is then, as soon as you please, squeezed, to press out superfluous liquid, and then if wanted for immediate use, a simple way is to place the masses of gauze—say, six-yard pieces—in a folded sheet, turn the folded sheet over then and roll it up. The folded sheet then absorbs the still redundant liquid, and you have moist gauze ready for use in five minutes. For the use of the ordinary surgeon it will probably be best to have the gauze dried, on the understanding that it is again moistened with 1 to 4,000 sublimate solution before being used. Here is a sample of the gauze in the dry state, which you see does not give off dust even when freely handled.

Other articles may be charged as well as gauze with this substance. The double cyanide being perfectly unirritating, there is no objection to having an excess of it. If you take therefore some of the preparation and stir it up with water, so as to produce an opaque liquid, and put linen rags into it, and then place them in a folded towel to take out the excess of liquid, you have your dressing ready prepared then and there. It can thus be very easily worked on an emergency.

We have seen that the double cyanide requires about 3,000 parts of blood serum to dissolve it. If therefore it is present in a gauze in the proportion of about 5 per cent., you will easily understand that blood serum may soak through such a gauze time after time without washing the ingredient all out; so that it is a material which is admirably stored up in the dressing. That is one of the three great advantages, the others being that, while trustworthy as an antiseptic, it is competely unirritating. In actual practice the few layers placed next to the wound are washed in a solution of carbolic acid, 1 to 20; this washes out the corrosive sublimate, which, though present in small amount, might irritate the wound to some extent. The carbolic acid soon flies off, and there is left in the application next the wound merely the unirritating double cyanide, and under this we find that not only do wounds, the edges of which are brought accurately together, unite beautifully by first intention, but even granulating sores heal by the gradual process of cicatrisation from the edges —heal by scabbing in a way that we have never seen so satisfactorily under any other dressing.

Having satisfied myself that this was really a useful material, I proceeded to request a manufacturing chemist to provide it for me on a large scale. Messrs. Morson and Son, of Southampton Row, kindly undertook to do this, and I have to thank them for the great pains they have taken in carrying out experiments on this subject at my suggeston. Their manager, Mr. Taubman, soon informed me that in his opinion there was exceedingly little mercury in this so-called double cyanide of mercury and zinc. Very little mercury could be got from it on testing, in comparison with what he obtained if it were a true double salt. He asked if I was sure that the cyanide of zinc was not after all the thing that was efficacious! Was the idea of the double cyanide altogether a delusion? I need not say how much pleased I should have been if such had been the case—if we could have had the cyanide of zinc without any poisonous mercury in it as an antiseptic. The cyanide of zinc was a perfectly definite compound, there could be no mistake about it. I proceeded to make experiments, and I found, indeed, that cyanide of zinc has antiseptic properties. I made, for instance, experiments of this kind—I took a piece of glass tube and packed it in two inches of its length with gauze charged with cyanide of zinc only, and then, holding it vertically, poured serum of horse's blood into it till the gauze was fully moistened; and then poured more in, till a quantity dropped out from the lower end equal to that which had produced saturation, the upper part of the gauze being thus thoroughly washed with the serum.

I then inoculated the top of the gauze with a potent septic drop. I had another similar tube with gauze that had no cyanide of zinc in it, and after pouring serum through it I inoculated that. I put each into a stoppered bottle, so as to prevent any evaporation, and placed them in the incubator. At the end of four days I opened the two bottles. That which contained the gauze without the cyanide of zinc stank, and, on taking portions of the gauze from either one end or the other, squeezing them and examining under the microscope the fluid that escaped, there were seen teeming multitudes of bacteria of various sorts. The bottle with the cyanide of zinc, on the other hand, had a pure odour of hydrocyanic acid, which this gauze always has when moist. I then examined drops squeezed from both ends, and I found no bacteria in the clear serum that was pressed out, not only from the lower end, but even from the upper end in the immediate vicinity of the inoculating drop, and where the gauze had been drenched repeatedly with the serum.

Now that, so far, is a result such as no other antiseptic had ever given me. Take iodide of mercury, for example. Comparatively insoluble as it is, if you pour blood serum upon it in such profusion you wash the iodide of mercury out, and if you inoculate septically the part so washed you induce bacteric development. The test applied was, of course, a severe one. In actual surgical practice the discharge which pours into the dressing is pure to begin with, supposing the wound to be aseptic at the outset. The septic agency acts from without upon unwashed parts of the dressing, and in a far milder form than here, where a potent septic drop was used. Thus we had clear evidence that the cyanide of zinc is an antiseptic. On the other hand, it turned out to be not so powerful antiseptically as our double cyanide so-called. In order to compare the two salts I made another experiment similar to that last described. I packed three pieces of glass tube with gauze in two inches of their length, one of the gauzes being charged with cyanide of zinc, and another with the so-called double cyanide (neither of these gauzes having been treated with solution of bichloride of mercury), while the third gauze was unprepared. Serum of horse's blood was poured into the upper end of each vertically-held tube till it thoroughly soaked the mass of gauze, after which each gauze was inoculated septically as the centre of its upper end. The tubes were then placed vertically in stoppered bottles in the incubator. It happened that in the septic liquid used for the inoculation that I used there was, among other organisms, a species of streptococcus which had a remarkable power of producing an acid fermentation in blood serum. After four days I proceeded to examine the contents of the three tubes. In the unprepared gauze there was utter putrefaction. In the gauze prepared with cyanide of zinc only, no putrefaction had taken place, but acid fermentation had occurred; both at the upper and lower end of the gauze litmus paper was reddened on application to the serum. In the putrid gauze turmeric paper was most intensely reddened, much more so than by normal blood serum, an alkaline fermentation having occurred there. On the other hand, with the gauze that contained the double cyanide, with mercury as well as zinc, both at the upper and at the lower end in the turmeric paper was reddened exactly as it was by the normal blood serum. This state of things continued the next day; but on the following day, six days after the commencement of the experiment, I found that at the upper end, in the vicinity of the inoculated spot, this gauze purpled litmus; while at the lower end it still reddened turmeric. At the end of seven days the same condition persisted. After eight days, however, both the upper and lower end of the gauze purpled litmus.

This peculiar septic organism, with the power of producing acid fermentation in the serum, had gradually worked its way down, in spite even of the cyanide of zinc and mercury; but the cyanide of zinc and mercury, you observe, had been much more efficacious than the cyanide of zinc alone. The cyanide of zinc had prevented the development of organisms that produced putrefaction, and only permitted the growth of the coccus that produced acid fermentation. Cyanide of zinc and mercury had for several days prevented all development. This was proof, therefore, that the mercurial element in our compound was valuable, and that we could not dispense with it.

It may be thought an unsatisfactory thing that there should have been any organism able to work its way thus through a gauze charged with our antiseptic. But I may remark, in the first place, that, as above stated, we tested the material exceedingly severely; in the second place, that it was a long while before the organism penetrated the gauze even for a short distance; and, in the third place, that penetration of micro-organisms through such a dressing into wounds does not seem to occur in practice, seeing that in the year during which I have used this antiseptic in my surgical work at King's College Hospital we have had no single instance in which we have had any reason to suspect septic change in the deeper parts of our dressing; we have had no instance in which deep-seated suppuration has occurred in an operation wound made through unbroken integument. If we have had any pus at all in such cases it has been from the surfaces exposed between stitches, or at situations where drainage-tubes have been inserted, where what I have termed antiseptic suppuration has shown itself occasionally, and even this in very slight degree. Such being the case, I feel not only permitted but bound to bring this material under the notice of my professional brethren.

As to the composition of this so-called double salt, it is for the present uncertain. This much is already established: that the cyanide of mercury is in very much smaller proportion to the cyanide of zinc than Watts's *Chemistry* would lead us to expect the double salt would give. But what the precise composition of the salt is we do not yet know. I am having it investigated by the Pharmaceutical Society, who have kindly undertaken the work.

There is another use for this material besides the charging of dressings. The powder moistened with a weak solution of corrosive sublimate may be rubbed into hairy parts, where it will convert the hairs into an antiseptic dressing. Not long ago a medical friend of mine brought his wife to me with no less than seven sebaceous cysts in the scalp, requesting me to remove them. Having washed the hair with 1 to 20 carbolic acid solution, I simply passed a comb over each tumour in the line where I was about to transfix, without shaving at all; and after taking out the cysts, rubbed some of the moistened powder into the hair in the vicinity. I then applied a dressing of cyanide gauze, and I was glad to learn that all the seven wounds had healed without disturbance.

We have now in the hospital a case of psoas abscess, shown to be of spinal origin, not only by the history of the case and the symptoms, but by the discharge of a portion of bone with the pus. That case is pursuing a course which, allow me to say, psoas abscesses will pursue in the

great majority of cases, if the surgeon uses a trustworthy antiseptic, and takes the same pains with dressing to the last as at the outset; that is, he will find his trouble rewarded by the complete cure of these formerly incurable cases. I say this because I grieve to think that psoas and lumbar abscesses still seem to be regarded as hopeless affairs by many surgeons. In this man's case the temperature has never been affected in the least; he has put on flesh rapidly; the discharge. after the purulent and curdy matter that existed originally in the abscess was got rid of, has been of serous character, and is in small and diminishing quantity. But the opening made for the discharge is in the vicinity of the pubes, and the pubic hairs used, under such circumstances, to be a constant source of anxiety unless frequently shaved away. Here we rub in at each dressing a little of the moistened cyanide, and convert the hairs into an antiseptic application.

I will not at present enter into the details of the preparation of this material; these will be supplied in a note on a future occasion.

The sketch which I have given you of this investigation, though it has, I fear, wearied you, conveys but a small idea of the toil it has involved. There are those who still believe that the use of antiseptic substances in surgical practice is always useless, if not injurious. The germ theory of septic diseases is indeed now happily established incontrovertibly. All now admit that septic mischief in our wounds depends upon the development of micro-organisms in them derived from without. But the gentlemen to whom I refer are, more or less logically, disposed to trust everything to the antiseptic powers of the human tissues.

I believe I happened to be the first to direct attention to the antiseptic agency of living structures, and there is perhaps no one who attaches greater importance to it than I do. Without it surgery in former days would have been absolutely impossible. Still I know too well from experience that it cannot always be trusted, and that the use of antiseptic adjuvants is in the highest degree important. And I have the satisfaction of knowing that there is among you a constantly increasing number who, when they have operated on an unbroken skin, with a fair field around for the application of their dressings, if they see septic inflammation occurring in the wound with its attendant dangers, know that it is their fault, or the fault of the antiseptic appliances at their disposal. To those among you who are impressed with this conviction I offer the dressing which I have described as the most satisfactory that I have hitherto met with; and I venture to hope that you will regard it as a not unwelcome addition to your resources.

THE REMOTE CAUSES OF PELVIC DISEASE.

By John F. Le Page, M.D.

Within the whole range of medical science there is no branch which, in its far reaching importance, can compare with that which embraces those diseases in women, which originate in her pelvis; and, notwithstanding the large experience and the unquestioned competency of the average general practitioner, I have no hesitation in saying there is no department of our science in which he is less perfectly informed—on which he has less definite and practical views. Probably this anomalous condition of things is due in part to the altogether erroneous idea that it constitutes the special domain of the gynæcologist; and, perhaps, it is, in a measure, owing to the fact that in his student days his college ignored the very existence of gynæcology, save as an insignificant appendix to midwifery. It is not a little strange that diseases, important in themselves, but even more important because of their endless effects on the economy, and their influence on the very essentials of life, should, almost up to the present day, have received the scant attention accorded them. Every man who practises medicine should be a gynæcologist; and it is difficult to understand how he can be a competent practitioner if he has not carefully studied those diseases which have their origin in the pelvis of woman, for not a day passes on which he could not trace cases, too often treated on general principles, to a remote cause born and nurtured in the pelvic organs.

The subject is so exceedingly large that I cannot hope, and do not propose, in the compass of this paper to touch on but a few of the very many causes which influence the integrity of pelvic health, nor shall I refer to the secondary causes, on which there is an abundance of literature, which constitute the usual starting point. I will further limit my remarks to an etiology which is peculiar to woman, as contrasted with lower orders of female life, and of enquiry which develop conditions not found in the female of those orders.

If one system in woman is peculiarly liable to perverse action, and that system in other mammals is not prone to deviations from normal function, there is *primâ facie* ground for the presumption that in woman causes exist which do not operate in other animals. The key is found in the comparative physiology of their generative systems. In what principal regards does woman differ physiologically from other females? Woman menstruates; no other female but that of the monkey has a true menstrual cycle, although some have, occasionally and at irregular intervals, a pseudo-menstruation. Woman ovulates at short and regular periods, and is capable of induced ovulation at almost any time. The lower orders ovulate after intervals very much longer relatively to the average duration of their lives, and during these long intervals their ovaries are quiescent. Woman has no quiescent period. Her ovaries are, during the whole of the thirty or more years of her menstrual life, in a state of functional activity. She, in common with monkeys, but no other animal, has a lochial discharge. She expels not only the fœtal placenta but the maternal placenta also passes away by the vagina. Ercolani has shown that this mode of removal is peculiar to upright animals. In others it is absorbed by the lymphatics.

Woman's placenta is a complicated organ, and its formation is an elaborate process as compared, for instance, with that of the diffuse placenta of the mare. In proportion to the complexity of this organ is the period which elapses *in lower animals* before the return of rut, and the lower the animal the shorter is the time occupied by the terminal of the cycle—the reconstruction of the uterus. The anti-rut—a period during which sexual appetite is absolutely dormant—does not bear any fixed proportion to the grade. But in almost all, rut or sexual activity, is of short duration; anti-rut or sexual repose is prolonged. In woman the equivalent state to rut is unending. There is no interval during which the sexual instinct is in abeyance. It seems almost inevitable, in view of this disparity, that, pathologically compared with the lower animals, we find woman subject to an endless train of disorders, infarctions, and neuroses, which in them are entirely unknown. The proneness of woman to disorders of, or dependent on, or

having relation to her generative functions, is due to the persistence of her sexual activity without intermission, and with scarcely remission, through both the cycles of menstruation and fœtation reacting on a more complicated and more highly sensitive nervous organism than is found in any other mammal.

The life of a woman naturally divides itself into three periods: The pre-menstrual, the menstrual, and the post-menstrual. Many of her diseases may be traced to the first period, the whole of which is occupied in the development of the organs of sex. With its close ends the process of physical development generally, although growth may continue for years. In the construction of any complex mechanism the greatest care is evinced in the accuracy, the completeness, and the stability of the detail; and its subsequent state of competence to meet the ends for which it is made, its usefulness and efficiency depend largely on the care which has been bestowed in its formation: and, in like manner, the healthy, the efficient, the perfect development and growth during this first period, is dependent to a large extent on the relation of external influences to that development. If the process is allowed to go on as best it can, with ever active opposing influences exciting unrestrained tendencies to eccentric development and deviations from normal standard; with the bias of the habits and customs of an artificial society, the natural result is a development stunted in its completeness, or ill-balanced in its detail. Over-developments ready to exercise an unwonted sway; under-developments calling for the exercise of the law of compensation.

The failure to physically educate girls during this all important formative period lies at the very root of the evil. Exercise is absolutely essential to development, and to the activity and regularity of function. Muscle, both voluntary and involuntary, owes, not only its growth, but its continued efficient existence to its exercise. If disused for a time it wastes, as seen in the flaccidity and diminished calibre of the muscles of a fractured limb. If unused for many generations, it becomes rudimentary—of this we have many examples. Even the fœtus in utero, untutored but by instinct, daily exercises its muscles; whilst the uterus all through pregnancy, contracts rhythmically every few minutes; these contractions, this uterine exercise, being essential to its development. It is my belief, and, from observations I have been able to make, that belief has grown into a conviction, that not only some but *all involuntary muscles are subject to rhythmic contractions*. The rhythm is not synchronous; in some it is long, in others short; nor is the duration of contraction in a ratio to the interval. Both are proportioned, first, to the effect required on the economy, as in peristaltic movements; secondly, to the requirement of the maintenance simply of passive efficiency, as may be observed in the long rhythm of the cremasters; thirdly, to the requirements of active development, as evidenced in uterine muscle during gestation. *Voluntary* muscles have no rhythm, but, given that all *involuntary* muscles are subject to an inherent proneness to rhythmic exercise, is it possible to argue—certainly not from analogy—that striated muscle can develop, and mature, and become educated, and maintain efficiency without a system of exercise such as that which is natural to all the nonstriated? Muscular inherent contractility, dependent in health on the stimulus of well oxidised blood, furnishes the incentive to restless movement during the first few years of life, until the strain put on the brain by forced study, and the total absence, in most cases, of any calisthenic training, destroy the incentive to exercise. This premenstrual period is essentially the time for education. Everything is maturing; everything needs culture and training. But the modern system of so-called education, fulfilling the requirements of a false and exacting society, is at the very root of the evils initiated in this period. Society claims a standard of literary knowledge in girls attainable, in the majority, only by mental strain and cramming, and environed with an utter disregard for the laws of life, with the result that girls grow to womanhood with cultured brains, but with a highly wrought and sensitive nervous system tyrannically dominating all other systems, which are mercilessly at its service. This is ill repaid by her ability to dispute with men, and to assume a bastard manliness. Education should be thorough, but it should be the education of the whole organism, the development of all its functions, that a healthy and well balanced physical organisation may give direction to a cultured mind. The devoted disciples of æsthetic philosophy may revel in ability to discourse in Latin; to translate sensational, if not lewd, Greek plays; or to enter into dissertations on funicular polygons; but the seeds of disease are sown in themselves, to bear abundant fruit in those who are so unfortunate as to be begotten of them.

The custom of covering portions of the body with numerous layers of non-conducting materials, such as wools, whilst the extremities are left bare, or very lightly clad, has undoubtedly a mischievous tendency. I have found the surface temperature vary, in differently clothed parts of the body, as much as 30°F. This, of course, means that in the exposed parts there is a deficiency of blood, and a slowness of circulation in the constringed vessels, with a passive engorgement of the portions—to wit, the lumbar portion of the spine and the abdomen—which by reason of their unwonted warmth have dilated vessels and an inordinate blood supply. The effect of this condition of things as a factor in the genesis of pelvic dyscrasia, existing as it does through the whole period of pelvic development, calls for a far stronger protest from our profession than has hitherto been made. The rapid march of medical science over tends to allure from the platitude of fundamental minutiæ.

The food of the growing organism should contain a large proportion of inorganic material in addition to the albuminous and carbonaceous substances which compose the multitudinous compounds of the modern *cuisine*.

In the menstrual period, bounded as it is by two epochs—the maturition of the sexual organs and the decadence of generative functional activity—an important fact stands out. It is that nearly every one of the pathological conditions found in the sexual organs can be traced back to one and the same primary morbid state. That is to acute or chronic, local and circumscribed or diffused hyperæmia or inflammation of the uterus, the ovaries, or the tubes. Then how is it that the pelvic organs are so prone to congestion? Because they have very large and important nerve centres with reflexes almost *ad infinitum*. Because they have a richer blood supply than any other organ. Because the calibre of their blood-vessels is influenced by the mind in a degree out of all proportion to mental influence on any other organ, and because their functions are peculiarly liable to irregular, incomplete, or perverted action. Among the causes which operate during this period are gonorrhœa, hysteria, missed organism, and in neurotic women an exalted state of sexual feelings with perverted instincts tending to moral insanity. It is difficult to overestimate the

far-reaching importance of gonorrhœa in the female. Without admitting, or attempting to disprove, that the invariable presence of the gonococcus furnishes in itself proof that it is the specific cause of the disease, or that this gonococcus is simply one of the germs which in countless legions pervade all things, and comes into active existence, simply because the gonorrhœal poison furnishes the particular matrix in which alone it can develop. The fact remains that commencing in the vagina gonorrhœa rapidly involves the cervix; and the cavity of the uterus, the tubes, and the peritoneal cavity are not infrequently implicated, often causing endless troubles, and greatly interfering with the health, and by secondary effects often influencing the life of the patient.

The neurosis which we still recognise under the misnomer "hysteria," unknown to the science of morbid anatomy, of the existence of which we have cognisance solely by its multifarious, its heterogenous, and its marvellously capricious manifestations, is a disease of nerve centres, the peculiar characteristic of which is its simulation in turn of almost every other disease, its mimetic effects producing pseudo diseases *ad infinitum*, accompanied by hyperæsthesia and anæsthesia, frequently by perversion of the intellect and exaltation of the emotions. In it the functions of nerve centres are so deranged that centric hyperæsthesia gives rise to false impulses and incoherent reflexes which derange the whole mechanism of life. If the phenomena of hysteria are dependent on centric excitement due to, or causing, hyperæsthesia and hyperæmia, and to the aggravation of the consequent loss of balance by the contiguity of areas in a condition of exalted nervous and vascular tension, to areas under opposite neurotic influences, causing anæsthesia and anæmia, then it follows that, that part of the body, the pelvis, which has at once the largest centres and the most important reflexes, and which from many causes is most liable to neurotic excitement and inordinate blood supply, will afford a vantage ground for the full play of this neurosis. Probably it is here in a large proportion of cases that the disease originates, as it is also here that its worst effects are seen. At the very root of the morbid conditions which originate in the pelvis is incomplete or missed orgasm. The sequence of events in the cycle of the physiological process referred to commences with psychical stimulation of the cerebro-spinal centres, or reflex impulse from the sacral plexus causing inhibition of the vaso-motor by impulse of vaso-inhibitory nerves, and giving rise to local hyperæmia, evidenced by general turgescence of vulva, uterus, tubes, and ovaries, distension of erectile tissue and the activity of Duverney's and the thousand or more sebaceous glands. The return to the *status quo ante* is effected by the apposition of the fimbriæ of the fallopian tubes to one or other or both ovaries, and the almost immediate effect is an impulse, the reflex of which is vaso-motor excitation, causing local vascular deplition, and return to the conditions antecedent to orgasm. Chiefly due to causes which are virile, and for which she is not responsible, this return does not in many women supervene; and it needs no argument in proof that if a tangent is continually struck at congestion, and this unrequited pelvic hyperæmia is repeatedly renewed, pelvic disease may, and indeed does, often result.

The customs of society, and the environments of the everyday life of woman, furnish countless incitements in many to, and foster, and develop, an exalted state of sexual instincts which, if not restrained, sometimes give a bias to the mind, which rapidly subdues the moral sense. In those cases, disease is probably originated in the genito-spinal centre of Büdge, at the level of the fourth lumbar vertebra, and extends to the anterior and posterior cerebral cortex; reacting on the genito-spinal centres, vaso-inhibitory preponderance becomes in varying degrees and continuity permanent.

TABLE OF 238 CASES OF COMPLETED OVARIOTOMY (163 TO 400) WITH REMARKS.

By George Granville Bantock, M.D., F.R.C.S.Ed.,
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As an appendix to a paper on "Hyperpyrexia after Listerian Ovariotomy," read before the Royal Medical and Chirurgical Society in December, 1880, I published a table of 162 cases of completed ovariotomy. The accompanying table carries the number to 400, and it will be interesting to compare the state of the Listerian method then with what it is now. In 1881 there was only two men, as far as I know, who ventured to perform ovariotomy without a rigid observance of all the details of the Listerian method. These two men were Mr. Lawson Tait and myself, and it is a fact worthy of repetition that we were working quite independently of one another, neither, as far as I am aware, knowing what the other was doing. At that time the method in question was in full swing; the belief in it, however ill-founded subsequent experience has shown it to be, was firmly rooted in the professional, and even in the public mind, and any one who ventured to express his disbelief, and especially who dared to ignore it in practice, did so at his peril. The younger race of practitioners, and especially men fresh from the medical schools, all talked glibly of the antiseptic method, and stood incredulous at the bare idea of performing even the most simple operation without "full antiseptic precautions"—as the phrase went. Every successful operation was due to the observance of the Listerian method, every failure to some fault in its application, and the most absurd explanations of the latter were forthcoming, and gravely put forward. Much ingenuity was exhibited in this way, and the imagination was allowed free play. I shall not again go over the ground covered in my inaugural address on "Listerism" before this Society, to which no one has yet ventured a reply.

What is the state of the question now? Simply this, that, in this country at least, it is a very rare thing to see the spray in use at all. For the most part it is to be seen put to a purpose for which it was never intended by the inventor, *i.e.*, playing upon the ceiling, or against a wall, or anywhere but on the field of operation. This is at best a most illogical proceeding, and I am quite at a loss to understand the process of reasoning—if there be any—which leads to such a practice. In the Samaritan Free Hospital it has been discarded by all my colleagues with one exception. I am making no assumption when I say that this is due to the superior results which I have obtained there since I reverted to a more rational and more simple method.

Still the belief in so-called antiseptics has a firm hold on many minds, and, although the belief in the efficacy of the spray has well-nigh died out, it is not so with other details of the method. For whether it be carbolic acid, or corrosive sublimate, or boracic acid, or whatever it may be, few operators venture to perform an operation without

employing one of these agents for the hands, sponges, and instruments.

I have frequently been asked the question, "Would you open a knee-joint without using an antiseptic?" My answer has been "Yes, most certainly, if the opportunity offered," for I see no difference between the serous membrane of the knee-joint and the abdominal cavity.

I have said that I am making no assumption when I say that my results in the Samaritan Free Hospital have led to the almost complete extinction of the spray in that institution. What are these results? I confine myself to the cases of ovariotomy, and I now record it as a fact that from April, 1885, to October, 1888—a period of three years and a half—I did not lose a case in that hospital with a series of ninety cases. On the other hand, during this period the mortality under the Listerian method exceeded 12 per cent. Moreover I affirm, without fear of contradiction, that my patients recovered with less pyrexia than under the carbolic acid treatment

It is, therefore, to me a source of much gratification now, and a set-off to the obloquy and misrepresentation to which I was subjected a few years ago, that I have the reward of seeing my views triumphant. I was justified in expecting this, for it was not the result of prejudice or vain speculation, but of a rigid attention to and a careful study of observed facts that I enabled to arrive at the conclusions I reached.

I have deemed it advisable and even necessary to recur to this question once more—I hope for the last time—for I am constantly learning that there still exists a belief that I employ some so called antiseptic in my operations.

Once more then let me say that for my hands, instruments and sponges, I use plain water; that I take no precautions to sterilize it, as it is called, by boiling; that I regard water that is fit for drinking and household purposes generally as suitable for the purpose of any operation; that while the water is heated—but not necessarily boiled—I have no hesitation in cooling it down, if too hot for my hands, with cold water drawn fresh from the tap, as for instance, when washing out the peritoneum, and that I pay the greatest attention to cleanliness and see that all utensils are as clean as water can make them. I wash my hands very carefully before commencing an operation, making them as clean as soap and water and a nail brush can make them, and I frequently cleanse them during the operation. I go so far as to use the nail blade of my pocket knife for removing all matter from under my nails after washing, without adopting that refinement of absurdity which consists in previously passing the blade through the flame of a spirit lamp, and I refuse to follow the teaching of Goodell, who regards it as a dangerous practice to disturb the germs or microbes, lurking under the nails. As a covering to the wound I employ simple absorbent gauze, perfectly innocent of any germicide or foreign substance. And such is my disbelief in the hurtfulness of "germs," that, were it not for other considerations, I would leave all my wounds exposed to the air—as for example, I have sometimes done in amputation of the breast, and always do in the operation for restoring a ruptured perineum.

What, then, are the results of this method, speaking generally? They are these, viz., that while in my first hundred ovariotomies, the majority having been done under the Listerian method or a modification of it, I lost nineteen cases, in my second hundred, while I was gradually abandoning this method, the mortality fell to fourteen; in the third hundred all performed with plain water the mortality was eight, and in the fourth hundred it was only four. In what I may call the general part of gynæcological surgery my perineal operations are out of hand in a fortnight, and it is a rare thing to see a breast case otherwise than practically well in a week.

In several particulars my practice now differs materially from that of nine years ago in the general management of an ovariotomy.

(1) *Washing out the peritoneum.*[1] The first case in which I resorted to this practice was nearly five years ago, viz., on November 13th, 1884. It happened thus: On November 12th I was consulted by a married lady, æt. thirty-nine, the mother of two children (No. 268 in the table). In the course of examination and while endeavouring to push up a tumour lying in Douglas's pouch, for the purpose of determining whether it was movable and a fibroid or not (there being some fibroids in the uterus also), suddenly I felt something give way, and the tumour disappeared both from the pelvis and hypogastrium, leaving the uterus with its fibroids to be clearly made out. As soon as possible I made arrangements for abdominal section, but these could not be completed untill the following morning. In the course of the evening of the same day there was a slight rise of temperature to 99·4, with some uneasiness in the lower abdomen, but on the following morning the temperature had returned to its normal standard. As soon as the peritoneum was opened a dark-coloured fluid like thick coffee welled up. After removing the ruptured ovarian cyst I freely washed out the peritoneum with warm water, using a quart jug for the purpose, and put in a drainage tube. The patient made an uninterrupted recovery and is still in very good health. The fibroids have given her no trouble. I did not use it again till March 16, 1885, when I encountered a case in which there was active peritonitis with recent parietal and pelvic adhesions and a great deal of free fluid in the peritoneal cavity. Since that time I have resorted to it very often and with increasing frequency until it has become the rule to employ it whenever any ovarian fluid has been spilt into the peritoneum, or there is any bleeding from torn adhesions, At first I used whatever came most conveniently to hand—a pint or a quart jug, or a clean Higginson's syringe—but for a considerable period I have used Lawson Tait's apparatus, which I am sure he will forgive me for saying I believe I have improved by adding a ball free from valves to facilitate the starting of the siphon action.

A full stream of water, such as this apparatus gives, removes all clotted and fluid blood, serum, debris, of a broken-up ovarian tumour, or fibrinogen much more effectually than it is possible to do by any other means, and without any irritation of the peritoneum. It is especially useful, as has already been pointed out before this Society, in cases of ruptured colloid tumour, for the warm water rapidly dissolves out the colloid matter which in these cases is so frequently found attached to the omentum, appendices epiploicæ, etc. I have never known any evil result follow its use, but I have several times regretted that I did not resort to it. Nor am I at all particular in getting all the water away. Sometimes, as for instance in the case of large tumours, the intestines will not descend into the pelvis before

[1] I have already given Mr. Lawson Tait the credit of having introduced this practice, and have therefore though it unnecessary to repeat it in the next text.

it is time to close the abdominal wound, and a cavity filled with air would be left in the pelvis. In these cases I leave sufficient water to fill up the space to come away subsequently through the drainage tube. Again, in the case of ruptured colloid tumours, every one who has had any experience knows that the peritoneum is usually covered with a very delicate layer of capillaries, the slightest sponging of which causes serious injury and oozing. In these cases also I remove no more water than comes to the surface.

At the meeting of the Society on November 14th, 1888, I called attention to a fatal case under the care of Dr. Polaillon, in which death was attributed to the washing out of the peritoneum. This case was reported in the *Journal de Medicine de Paris*, October 28th, 1888, and in the *Bulletins et Memories de la Société Obstetricale et Gynécologique de Paris*, Seance de Novembre, 1888, and is as follows :—

"In consequence of the effusion of blood into the pelvis, Dr. Polaillon washed the peritoneum with distilled water, which was boiled and carbolised to 1 per cent., and used at a temperature of 37° (C) or 98·6 (Fahr.) by means of a glass tube, which carried the stream to the bottom of the pelvis. The washing had been continued for two or three minutes when all at once the respiration quickened, then became shallow, and finally ceased. The face became livid, but the heart continued to beat regularly. This was at a quarter-past ten o'clock. Artificial respiration was at once practised, and continued methodically. At eleven o'clock, respiration not being restored spontaneously, an incision was made for tracheotomy. A few feeble respirations followed and continued regularly for ten to fifteen minutes. The face became less livid; the pupils were half contracted; the heart beat regularly, but consciousness did not return. Advantage was taken of this improvement to close the abdominal cavity and complete the dressing, the pedicle being kept outside, secured by two pins and an elastic cord. In spite of the inhalation of pure oxygen, and various other means which need not be mentioned, respiration could not be established in a durable manner, and artificial respiration was again resorted to. An attempt to bleed from the arm yielded only a few drops of black blood. The heart beats became more and more quick, feeble and irregular, but there was no spontaneous respiration. Soon the heart beats were no longer perceptible; the face became more and more pale; some gas escaped from the anus; the pupils dilated. Within a few minutes of twelve o'clock death was incontestable.

"The administration of chloroform had lasted thirty-five minutes, and nearly forty grammes (about ten fluid drachms) of chloroform had been used. The quantity of chloroform absorbed by the patient cannot be exactly determined, but by reason of the evaporation it was certainly much less than the amount employed.

"This death has not for its only cause the action of chloroform, as some will not fail to say. In my opinion, we must also blame the washing out of the peritoneum."

Dr. Polaillon then refers to two other cases in which respiration was temporarily arrested at the moment of the injection of very warm water, but in these two cases it was re-established. In the case in question he says he had already poured two litres of warm antiseptic water into the pelvis, and as it flowed over very much tinged with blood, he poured in another which was accidentally much warmer than the preceding. The pelvis being full of water this injection extended to the upper part of the abdomen. "It was at this moment," he says, "that the respiration became arrested." He believes that it was the contact of this hot water with the diaphragm or the solar plexus which produced an impression, which, by reflex action, provoked the arrest of respiration and syncope, and he compares it with the effect of a blow on the epigastrium. He adds, "the combined action of the chloroform and the warm injection caused the death of my patient; but I am convinced that the injection was the principal cause."

When I first called attention to this case I gave it as my belief that the death was due to carbolic acid poisoning. In this view of the case I am glad to find myself supported by Professor Japp Sinclair. It would appear that the attention of the operator was taken up with attempts at restoring the respiration, and that nothing was done—at least for considerable time—in the way of removing the carbolised water from the peritoneal cavity. Hence with the continuance of the circulation, it is a fair assumption that absorption continued, though in lessening degree during all this time. That Dr. Polaillon was right in attributing the fatal result to the injection, and absolving the chloroform I am fully convinced, but I am equally convinced that he entirely overlooked the part played by the carbolic acid.

In a recent number of the *Annales de Gynécologie* (September), Dr. Perrie Delbet has published an interesting series of researches on this subject. With regard to his conclusion that, because foreign matter cannot all be removed from the peritoneum by flushing, it is best to emply an antiseptic solution, I shall only say that experience does not bear him out. His experiments tend to show that the temperature of the water within the limits of 65° to 122° (Fahr.) has no appreciable effect on the respiration or circulation, but that a low temperature by its chilling effect increases shock. He is of opinion that in Dr. Polaillon's case the carbolic acid or the anæthetic may have had the principal share in the fatal result, thus absolving the mere act of flushing, and he doubts the alleged hæmostatic action of very hot water. He points out that during the first minutes a great quantity of water is absorbed, and that when salt in the proportion of seven parts to one thousand of water is used the process becomes "a true indirect transfusion." It is probable that with water alone the same result would be obtained. Hence we can imagine that this process might be of service in lessening the shock due to loss of blood, the suggestion of which is claimed by Dr. Gill Wylie. One important fact which is brought out in Dr. Delbet's experiment is this, that after flushing the peritoneum for ten minutes with the saline solution, a poisonous fluid may be diffused over the peritoneum with impunity, provided that it be followed by another flushing with the saline water.

I have washed out the peritoneum in more than one half of the last hundred cases in the table, and I have never seen anything approaching the condition described by Dr. Polaillon. In many of these the abdomen has been completely filled. I cannot but believe that if Dr. Polaillon had used plain water instead of a weak solution of carbolic acid, he probably would not have met with such a disaster in the case in question, nor the serious symptoms he observed in two others. It is probable that a weak solution of carbolic acid might be absorbed by the peritoneum in considerable quantity, while a stronger solution, by virtue of its caustic and coagulating property, would have the effect of closing

the mouths of the lymphatics, and thus limiting the absorption. It is too late to deny the possibility of the absorption of carbolic acid by the peritoneum. There are too many observations on record to prove the fact beyond any doubt.

We know also that as in the case of corrosive sublimate or any mercurial preparation, some persons are peculiarly sensitive to its action, and that while in a large majority of cases no harm may accrue, yet now and then a case is met with in which this idiosyncrasy exists. This is the only rational way of accounting for the large number of deaths due to the use of corrosive sublimate. I protest, then, against the employment of any so-called germicide substance in flushing the peritoneum, and cannot too strongly insist on confining ourselves to plain water as at once perfectly innocuous, and thoroughly efficient. If, however, it should be any comfort to the operator's peace of mind to use *something*, let him limit himself to the use of that innocent, and in certain circumstances—as for instance, great loss of blood—possibly beneficient, substance, known under the name of common salt.

(2) *The Treatment of the Pedicle.*—More than seventeen years ago I exhibited a specimen before the Obstetrical Society of London which illustrated the changes which take place in the pedicle of an ovarian tumour—and it applies to all pedicles—after the application of the ligature (Obstet. *Trans.*, January, 1872), and the explanation I then gave of this process is now universally accepted as the correct one. But it is rare to find the credit assigned to the right person. At that time, and for several years after, the clamp was almost universally used. In the beginning of the year 1876, dissatisfied with the clamp, and on the faith of the observation just referred to, I announced my intention of exclusively employing the ligature until I had settled the question to my own satisfaction. Since the 25th of November, 1875, I have used it exclusively, and I have now the satisfaction of witnessing its almost universal adoption. (I appeal to the writings of Mr. Lawson Tait for an expression of opinion as to the beneficial results of the change.) I soon, however, found that there were difficulties in the way, for I lost my nineteenth case from the slipping of the outer edge of the pedicle—that edge which consists of two folds of peritoneum with its contained vessels. To obviate this source of danger I adopted the plan of first securing this fold by a separate ligature before transfixing for the main ligatures. This plan has never failed me, but its omission has more than once led me into disaster. It has been suggested that the object to be attained was the securing of the blood vessels. To a certain extent that is true, but that result is attained indirectly, for it has never been shown that the vessels have retracted while the folds of the peritoneum remained encircled by the ligature. Nor can it be. When the peritoneum of this part of the broad ligament is folded upon itself, as must happen in the case of a broad thin pedicle, it is remarkable with what ease one of the folds can be pulled through the loop, even when the ligature is tied as tightly as possible. It was this fact that suggested the method to me.

Then again, it was suggested that the ligature should not be tied as tight as possible in order to allow of capillary circulation through the constricting loop. This suggestion would seem to have been made in ignorance of the fact that in all cases there is more or less shrinking of the tissues embraced by the loop after the tumour has been cut away. This fact is particularly seen when uterine tissue is dealt with, and constitutes the principal objection to the use of the ligature in such cases. In a large number of cases it is sufficient to transfix the pedicle, and tie with all the force the ligature will bear, using either the double ligature, the Staffordshire knot, or the figure-of-eight knot, according to the predilection of the operator. But it very frequently happens that the pedicle is so large, so thick, and so vascular that more than the double ligature is required for the main constriction. I have put on as many as nine ligatures in such a case as this. To meet this difficulty I devised the method of first compressing the pedicle by means of a pair of powerful forceps, or even two pairs. By such means the thickness of the pedicle is reduced to one-half, or even one-third of the size it would have retained under the old method, and two loops will now be sufficient instead of the three, four or five, or more ligatures formerly required. There is this further advantage that there can be no appreciable shrinking of the tissues after the application of the ligatures, while the pedicle being divided through uncompressed tissue a knob is left outside as an additional safeguard against slipping of the pedicle. For my part, I prefer the figure-of-eight loop, but this is a matter of predilection.

(3) *Opium.*—When I began to perform ovariotomy, and for many years after, I followed the routine practice of administering some preparation of opium, either by the rectum or by subcutaneous injection. The rule was to administer the sedative as soon as the patient had recovered sufficiently from the anæsthetic to complain of pain, and I believe it remains the rule with the majority of the present day. So much are we the slaves of custom that we continue the practice simply because our great-grandfathers did it. Probably most men who give a sedative now-a-days can give no better reason for so doing than I could give five years ago.

It was about the same time that I resorted to flushing the peritoneum that I discontinued the use of opium after operation. It came about in this way. Early in the year 1884 I performed ovariotomy on an old woman, æt. fifty-eight, and to arrest the very free bleeding from the parietes I resorted to ligatures and the actual cautery. The case was a very severe one, and complicated with a chronic cough. Although she was very ill on the fourth day, yet her pulse and temperature indicated that she might last another day. She had had morphia—a quarter grain—immediately after the operation, according to the usual routine, and at intervals afterwards. I had no hope of saving her, and as she was complaining of pain at my visit I wished to spare her any avoidable suffering, and gave her a sixth of a grain of morphia subcutaneously. She was dead within ten minutes. I was horrified and said to the nurse, "We must not have this happen again. For the future give only a sixth of a grain after the operation and don't repeat it if you can avoid it"

By and by I reduced the dose to an eighth, and, satisfied with the result in several cases, I afterwards reduced it to a twelfth. It was observed that there was less sickness and less discomfort generally the next day, and the tongue was more moist. Then I said, "Now we'll leave it altogether." It was some months ere we got to the end of our experiment, but so satisfactory were the results that since the beginning of 1885 no opium has been administered after *any* operation with three exceptions. In one of those 20 minums of laudanum were administered once by the rectum, in the

second a quarter of a grain of morphia was injected into the arm, and in the third an eighth.

It is at least a curious coincidence, if not a consequence, that my mortality since that time is under 4 per cent., as may be seen by the table. Not only have the patients recovered in large numbers but they have also recovered better. Any one who has experienced the after-effects of opium as I have done, especially the distressing restlessness, will be only too ready to spare his patients such suffering. Now if there is one operation more than another which would seem to demand the administration of a sedative it is that of supravaginal hysterectomy, in which the pedicle is treated extra peritoneally with the serre-nœud or elastic ligature. In that operation the pain is undoubtedly severe, at least for a few hours But it is only necessary to encourage the patient to bear the pain as courageously as possible with the assurance that in a few hours she will be in comfort. I find no difficulty in persuading her to this, not even for the purpose of allaying restlessness, for the relief of which Dr. Greig Smith still recommends it.

It is an admitted fact that opium is a virulent poison in most cases of chronic Bright's disease, and yet although my table contains several cases where there was a strong suspicion of such disease, the patients have done well.

In a paper on "The Condition and Management of the Intestine after Abdominal Section," Mr. Malcolm pleads strongly in favour of the administration of opium after operation, on the ground that "to keep the whole intestine as quiet as possible for a time would seem to be one of the plainest indications. Opium is our best agent for this purpose. Opium . . . . quiets the action of the gut, secures as much as possible the intestinal rest which is so greatly needed, and tends to prevent those irregular, fruitless and exhausting efforts which are so exhausting at this time." While, however, he admits that "opium may undoubtedly do harm in some cases and conditions," he contends that "there is abundant evidence of its beneficent action." Now this is just the point that I contest. It is certainly of the first importance to quiet "the action of the gut" after abdominal section, especially in severe operations in which there may have been "much interference with the bowel and mesentery, and laceration of these parts in the separation of adhesions," but this is better effected by giving the intestines nothing to do for twenty four or more hours, and keeping up gentle elastic pressure, or rather support, than by giving opium and binding down the intestines by stripes of adhesive plaster applied firmly over heavy and hard dressings as he has learnt to do. It would be vain to deny that opium diminishes the peristaltic action of the intestines. But it does more, it diminishes secretion. Why does a woman who has lost control over the rectum, through complete destruction of her perineum and sphincter, so often resort to the use of opium to enable her to move about without leaving behind her unpleasant traces of her steps? It is because of this double effect. Both these effects are interferences with the normal and healthy action of the intestine, and as such are not desirable.

But I will not pursue the argument further. I will content myself with expressing the hope that surgeons will cast aside the pernicious trammels of routine practice and put the matter to the test. I can confidently assure them that if they will do so—as Mr. Lawson Tait and myself have long ago done—they will have no cause for regret. It was gratifying to me to hear one of our secretaries announcing, at a recent meeting, that he had found it answer well. I trust his example will be extensively followed.

(4) *General After-treatment:* (*a*) *Vomiting.*—When I first began to have the management of cases of ovariotomy and to perform the operation, and even for several years afterwards, I used to try to stop sickness by the administration of prussic acid and other antispasmodics, and I am sure I often did harm thereby. It is now a long time since I came to the conclusion that the best way of arresting sickness was to keep the stomach as quiet as possible by preventing anything from getting into it. This is provided for in the first instance by not allowing any food to be taken for many hours before the operation. Hence I prefer operating in the morning, the last food taken being a light supper. Sometimes, however, the stomach will be found to contain some watery mucus in quantity so small that the efforts to get rid of it by vomiting are quite ineffectual. A few ounces of hot water will generally suffice to clear out the stomach, and there is no more trouble. At others bile is excreted in large quantity and gains access to the stomach. When the bile is yellow and thus gives indications of its recent entrance into the stomach, the hot water alone will probably suffice to get rid of it at once. But when its conversion to a green colour shows that it has been long enough in the stomach to be decomposed by its acid contents something more is required. The best remedy in my experience is the administration of three or four ounces of hot water containing fifteen or twenty grains of bicarbonate of soda. It is very rare, however, that I am called upon to resort to these measures, although all my patients are anæsthetised with chloroform, which in the opinion of some is so objectionable, but which I may here state is, in my opinion, and after an experience of thirty years, the best anæsthetic we possess.

(*b*) *Thirst.*—It would appear to be still a very prevalent practice to allow patients to suck ice for the purpose of allaying thirst. I would recommend the study of the literature of Arctic exploration to any one who as any doubt on this subject. He will there find unprejudiced evidence, sufficient to convince the most obstinate, of the injurious effects of this practice. Indeed, the strongest warning is given against the slightest indulgence in it, for it is so seductive in its immediate effects. Nothing gives so much relief as rinsing the mouth with warm water. Why is it that a cup of tea is so much more lasting in its refreshing effects in hot weather than a cold drink? It is because of its warmth, and the consequent absence of reaction. It seems to me so long since I gave up the practice of giving ice that my memory does not enable me to assign a date to it. Yet the practice is still so prevalent that I very seldom come across a fresh nurse without having to give her specific instructions on this point.

Peritonitis is one of the most serious conditions we have to encounter in the after-treatment of a case of ovariotomy While it was at one time a very common condition and perhaps the most frequent cause of death, I am happy to say that several years I have had very little experience of it. In this I consider myself very fortunate, for I must confess that I have little or no faith in any kind of treatment. Lawson Tait and Greig Smith tell us that they are in the habit of meeting the first symptoms of peritonitis by the administration of a saline purgative. I have no experience of this method of treatment, and I fail to understand the *rationale* of it. Now peritonitis may arise from causes operating within the peritoneal cavity, or outside it. I need

not enumerate the various causes of the former, the chief of which has been obviated so largely by the use of the drainage tube. The latter is due to the presence of irritating matters in the digestive tract. In the former class of cases I believe we are helpless, unless we can remove the offending material from the peritoneal cavity. This can only be done by re-opening the peritoneum, and the treatment must be surgical. In the latter, however, our resource must be found in the medical art as distinguished from the surgical. Now, in my experience, one of the first, if not the first, symptom of peritonitis is vomiting. But every case of vomiting is not one of peritonitis, even when occurring several days after the operation. Nor is tympanites a sure and certain sign of peritonitis. It is particularly a sign of obstruction, whether from paralysis or mechanical obstruction of intestines from any cause. The following case illustrates what I mean. Some years ago a patient of mine was seized with sickness several days after the operation of supra-vaginal hysterectomy. The vomited matter went through the various changes until it assumed that appearance which so often indicates a fatal termination, viz., black vomit. All food had been stoped by the mouth without any benefit, and beef tea enemata had been substituted. Happening to pay a visit when the beef tea injection was due, I inquired if everything had come away, when the rectal tube was passed as a preliminary. There was undoubtedly some fæcal matter in the refuse. I had a large enema at once administered. It brought away a considerable quantity of fæcal matter, and it was not till eleven or twelve enemas were given that I was satisfied that all the accumulation had been removed. The vomiting ceased as if by magic, and did not return, and there was no further trouble. I have my own opinion as to what would have been the probable result had I given an aperient, saline or anything else, instead of the injections.

In such a condition as that indicated by Tait and Smith, I have adopted an opposite course—and I have had a considerable number of such cases—in stopping everything by the mouth, and the results have been most satisfactory. In my experience purgatives have always aggravated the condition. Greig Smith tells us that he believes "that a saline purge may be of advantage where there is fluid collecting in the pelvis." I am glad he finds comfort in the belief. Moreover he says—though I have not been able to verify the quotation—that Tait tells us that in many cases where others would drain, he purges. But that is a very different thing, and reminds me of the abortive treatment of fevers by an emetic. You cannot possibly prove your case. On the whole, then, while fully accepting the statements of Tait and Smith as statements of fact, I am not prepared to accept their interpretation of those facts, and I believe we are as far as ever from the attainment of a successful method of treating actual peritonitis.

THE MILK SUPPLY AND LUNACY.

By William Ackroyd, F.I.C.,

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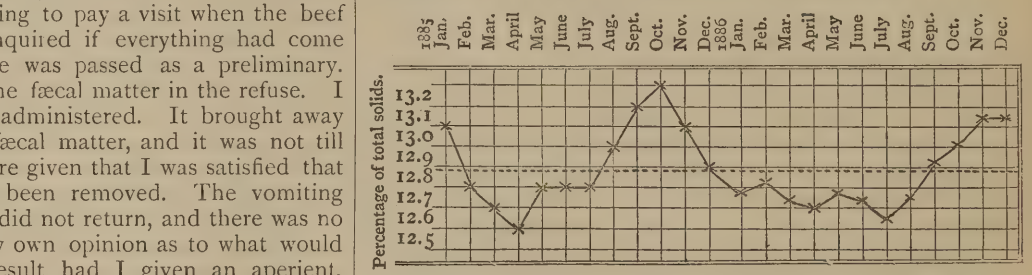
Some interesting statistics of admissions to lunatic establishments for the period 1880-87 are given in the thirty-first Report of the General Board of Commissioners for Scotland. The monthly returns for these years show that there are well-marked seasonal fluctuations. Thus the average monthly number of admissions for the eight years is 1,699; and in the months of May, June, and July, the number is 628 above the average; while for the months of October, November, December, and January, the number is 462 below it. The rise and fall is gradual; the number is going up in February, March, and April, and is going down in July, August, and September. The regularity in the rise and fall is twice interrupted. Thus in the first half of the year the rise is interrupted by a fall in April, and the fall is interrupted by a rise in December.

Such variations have, I believe, been correlated with a number of other phenomena, such as atmospheric condition, temperature, barometric pressure, season, etc., and I desire in this communication to add one more to the list, viz., the seasonal variation in the quality of milk. The accuracy with which the total solids can be ascertained makes this a good number to take for the purpose, especially if it be an average each month of a vast number of analyses. The requisite data have been furnished in *The Analyst* for some years back by Dr. Vieth, the analyst for the Aylesbury Dairy Company, and I give below a curve I have plotted for the year 1885, which is based on 16,037 samples of milk analysed for this company, and a continuation of it for 1886, based on 17,269 analyses.



If we assume that mental aberration and weak milk are both alike indications of lowered vitality, then a curve like the above ought to bear an inverse relation to the *data* given at the commencement of this paper—*i.e.*, when the rate of admissions to asylums is rising, the quality of milk ought to be falling, and *vicè versa*.

The horizontal dotted line represents the average of total solids in milk for the two years covered by the curve. On comparing the results plotted in this diagram with the statistics given in the first paragraph, it will be observed that when admissions to asylums are above the average, in May, June, and July, the milk curve is below the line, and when the number is below the average, in October, November, December, and January, the milk curve is above the line. When the number is going up the curve is coming down, as in February, March, and April, and when the number is going down, in July, August, and September, the curve is rising. Further, after the first indications of a rise in the curve have been manifested, there are fluctuations which roughly correspond to the interruptions noted by the Scottish Lunacy Commissioners.

For an exact comparison, English statistics ought to have been available. I am informed, however, by the Secretary to the Commissioners in Lunacy, at Whitehall, that no record has been kept hitherto of the number of persons registered as insane, month by month, nor has it been considered worth while to do so. It is also pointed out to me that the first symptoms of insanity rarely correspond with the date at which patients are first placed in asylums, or certified to be insane; that it is, as a rule, only when an insane person becomes too troublesome or

dangerous to be any longer regarded or dealt with as sane, that their relatives or neighbours take action upon their insanity; and thus that the date or month when a patient becomes certified is very fallible evidence of the commencement of their madness, and cannot be reasoned upon as a fact of established value fit to compare with others, such as I have here introduced.

I may point out, however, that in an inquiry like this, we are dealing with averages founded upon a great number of observations, and that possible sources of error arising from the delay referred to are practically eliminated; indeed the only result we should look for would be a slight lagging of the insanity curve behind the milk curve. But apart from this consideration, I think it will be admitted from the foregoing facts, that even with the imperfect *data* at command for comparison, one is justified in concluding that the tidal fluctuations in quality of milk and tendency to madness closely correspond with each other, and that it is a subject worthy of further and more precise study.

SCARLET FEVER.

By Charles Orton.

Some time ago, while in attendance on a case of scarlet fever in an adult, my attention was called to an article in the *British Medical Journal*, by Mr. Parker, of the East London Children's Hospital, wherein he questions the wisdom of trying to escape an attack of measles or scarlet fever during childhood, when the fever may be gone through with ease and comfort; and forecasts that fevers will tend to occur in epidemics, become severe, and occur very largely among the adult population. [I wonder whether he would have applied these doctrines in years gone by to typhus.] Further on he says: "By all means isolate a house when infection breaks out; keep it there until it has exhausted itself, and adopt every known precaution in the way of disinfection afterwards." This practice he recommends, while he ventures to think that the more carefully isolation is practised, the more frequent will epidemics become. I will not venture to discuss this question; but I will give you, for what it is worth, the opinion I have formed after twenty-five years' work in Newcastle-under-Lyme upon another statement made by Mr. Parker—that "it is a matter of experience that the exanthemata run a severer course in adults than in children." So far as scarlet fever is concerned, I am of an opposite opinion. The oldest person I ever saw with scarlet fever was aged twenty-seven, and that individual was myself. It was of a very mild description, unattended with any kidney trouble. The late Dr. Alfred Cotterill, then a student, contracted the fever at the same time, and from the same case, which was one of a malignant and fatal character. Dr. Cotterill had some slight rheumatic fever following; but though worse than I, was never, I believe, seriously ill. Here we have an example of a malignant case begetting others of a milder form, but in older individuals. On the other hand, I have seen very mild cases indeed beget others of a malignant type. Mr. Parker says the malignant forms ought to be most carefully isolated. Certainly, and so ought to be the milder forms; for however mild a case of scarlet fever may appear, depend upon it, you are treading on very dangerous and treacherous ground.

Now we will just glance at the tables of mortality for the twenty-five years. There are 176 deaths. In the first ten years of my practice the deaths numbered 129; in the first fifteen years following, only fifty-three, and during the last two of these fifteen years there has not been a single death in Newcastle from scarlet fever. I cannot help thinking that the improved sanitary condition of the town generally, the improved drainage of the streets, the better hygienic state of nearly all dwellings, has had much to do in lessening the mortality of this once fearful scourge.

With regard to the severity of scarlet fever in the adult, well, I have only treated one case within the last ten years, and that was a very simple uncomplicated case, and I have never seen a severe case in an adult. Looking again at my tables of mortality, we only find two deaths in the whole twenty-five years of individuals over fifteen—viz., one at nineteen in 1871, and one at twenty-one in 1876. How different is the record as you approach the first years of life. Of the total 176, 174 are under fifteen, 161 are under ten, and 117 are under five. It is interesting to notice the different death-rate between the first and second year of life. Under one year there are only six deaths; between one and two there are thirty-two deaths. My advice is to isolate every case, however mild, most rigidly; disinfect clothes, rooms, and the patients' body; burn old books and rags, in fact, everything of little or no value. Take care of the infants of the present, and let the adults of the future take care of themselves.

Ages	Under 1 year	Over 1 & 2	Over 2 & 3	Over 3 & 4	Over 4 & 5	Over 5 & 6	Under 6 & 7	Under 7 & 8	Under 8 & 9	Under 9 & 10	Between 10 & 15
	6	32	27	25	27	18	12	6	4	4	13

Between 15 and 20, 1 (at 19), and 1 at 21.

Under 5 years, 117; over 5 and under 10, 44; under 10, 161; over 10 and under 15, 13; under 15, 174; over 15 and under 20, 170; and one solitary death at the age of 21. Total, 176.

From 1st January, 1864, to 1st May, 1873, there occurred 129 deaths—one at the age of 19 in 1871. From 1st May, 1873, to 1st January, 1889, there occurred 53 deaths, one at the age of 21 in 1876.

ACUPUNCTURE.

By Charles R. Illingworth, M.D., M.R.C.S.,

Medical Officer, Rishton District of Blackburn Union.

The relief of pain by acupuncture is so pronounced and remarkable that the cases suitable for the adoption of this ancient remedy deserve more than a passing notice. As I have the utmost confidence in its power to relieve the vast majority of those cases which are generally treated by morphia hypodermically, I have thought that a short account of twelve or fifteen cases, taken as they occurred in my practice, may not be without interest to your readers. My hypodermic morphia is now dust-covered on a back shelf; whilst my acupuncture needles are plunged into some antiseptic ointment, fully a score of times a month, in preparation for the relief of muscular, rheumatic, and other pains, whether from bruises, twists, sprains, or any other accident to which the muscular system is subject. I use those which are one and a half inches in length.

1. J. R——, a collier, æt. twenty-one, complains of pain under the left twelfth rib anteriorly, which catches the breath and is aggravated on moving the body. Pulse 108; slightly feverish. Diagnosis, pleurodynia with catarrh. An acupuncture needle plunged in on to the rib at the painful spot removed the pain at once. Suitable medicine prescribed for the cold.

2. J. M——, an old lady, fell down stairs and bruised the back of the body fearfully. In three days I was sent for and found her quite unable to move without the most intense pain at one or two badly bruised places. A needle was thrust right through the bruised tissues down to the ribs, in a slanting direction, at the painful parts, with complete relief. Next day the pains affected other bruised parts, and the same means were adopted with equal effect. In five days she was able to walk down, and remained free from further attacks.

3. Mrs. W——, after kneeling to clean the floor for two hours consecutively, was seized with great pain in the thigh. After passing a sleepless night she sent for me. I found the flesh on the anterior aspect of the thigh hard and painful to the touch. I passed a needle right through the most painful parts in two places, and immediate relief was obtained. The pains did not return.

4. In three cases of loss of some power in the hand, and peculiar pains on the outer and anterior aspect of the forearm, I have found tenderness on the outer aspect of the upper arm, immediately above the external condyle, and in the vicinity of the musculo-spiral nerve; and I have effected rapid cures by inserting three or four needles down to the bone for a few minutes.

5. A little boy in the coalpit had his arm violently wrenched at the shoulder. He had no sleep, and no rest from pain at one point in the shoulder for forty-eight hours. I found the deltoid muscle hardened, and, as it were, "in a knot" at one point. A needle plunged into this gave instant relief, and the pain never returned.

6. Sciatica. In these cases all that is needed is to hit the nerve with one or two needles, and the pain at once leaves.

7. T. H——, æt. thirty-three. This patient had had lumbago for a month. He couldn't turn in bed, or stoop the least bit without excruciating pain. I plunged a needle into each side of the back, deeply into the erector spinæ. The cure was instantaneous.

8. J. B——, æt. fifty, fell, and in saving himself twisted his back considerably. He complained of pain a few days afterwards in the mid-lumbar region. I plunged a needle into the erector spinæ at the tender point, and the cure was instantaneous.

9. J. W——, a printer, fell on the arm of a chair and bruised his ribs. He came to me on the fourth or fifth day afterwards with great pain over the twelfth rib on the right side. One needle gave him relief at once.

10. J. B——, æt. fifty, overlooker at a mill, sprained his back with lifting a heavy weight five hours before. I was summoned, and found him lying on his face unable to move, and suffering intense pain. In the mid-dorsal region, at one point, there was great tenderness on palpation. A needle was thrust into the substance of the erector spinæ and other tissues at the point of tenderness, and the pain left him at once. He got up and went about his work.

Acupuncture cures by relieving tension. There is stagnation of blood, or slow circulation. Local venesection is performed into the tissues, with the effect of unloading tightly-packed vessels and consequent relief. In sciatica and other inflammatory nerve affections, there is effusion into the nerve-sheath at certain points; the needle punctures the distended sheath, and relieves tension by evacuating the effusion.

Special Articles.

IS LIFE WORTH LIVING?

By Alfred J. H. Crespi, Wimborne.

Perhaps no stranger text could be chosen for a paper by a medical man, whose mission is to lengthen life. If life is not worth having, why then of all men he, whose aim is to prolong it, must be most miserable. But would many people unhesitatingly admit without reflection that life was worth living. Only think of the bitter competition to which most men are subjected: the petty enmities, the disappointments, the unrealised hopes, the warfare within and without, and then can you be surprised if the answer is given with some hesitation. Ask a musician, for instance, if the "Messiah," the "Elijah," or the "Creation" is beautiful, and he answers "yes," wondering what you mean. Ask him if life gives him unmixed satisfaction and pleasure, and he almost as certainly replies, "Well, no." No question is easier to put, none more difficult to answer, although most men have a conviction that life is a privilege. Nevertheless, in certain moods no passages perplex us more than those in which the Master implies that life *is* a privilege and a blessing. When we think of the misery around us—the blighted hopes, the blasted reputations, the sin—it is a grievous trial of faith to admit unhesitatingly that the mere act of living is to nearly all men a pleasure. "If," says Sir John Lubbock, "we do our best; if we do not magnify trifling troubles; if we resolutely look, I do not say at the bright side of things, but at things as they really are; if we avail ourselves of the manifold blessings which surround us, we cannot but feel that life is indeed a glorious inheritance." Exactly so, but how many *ifs* are needed before we reach that happy goal.

Schopenhauer held that all men were hopelessly wretched, and he would have a goodly army of supporters. What do most of us yearn for?—a future whose joys will be purer and less alloyed. We do not mean a future life, which none would care for were it only a repetition of the present, but future years, with the conditions of existence more congenial and ennobling. So it ever is with men—the future rather than the present. The schoolboy longs for the greater freedom and more abundant opportunities of active competition with his seniors: the young man commencing life still looks ahead; the veteran closing his career, if he remains fit for work, sighs for something he has not yet found. Life, as most men know it, is too much made up of disappointment and sorrow to be thoroughly enjoyed, and the future still beckons on and deceives. Yet, however great his occasional despondency, the Christian cannot help being consoled by the solemn words of the Master: "It had been better for him had he not been born," undoubtedly implying that, in the vast preponderance of cases, life is a priceless privilege, and that not to have had it would be a distinct loss. Perhaps after all no words rightly understood give greater consolation; and so we have found, when we have despaired of ourselves and our fellows; and when we have been ready, in the language of Dr. Samuel Wilks, to join in the universal refrain of humanity—a refrain implying trouble, anxiety, and unceasing toil—the sweet music of those words ringing in our ears has renewed our courage. Nevertheless, it cannot be denied that the conditions of existence are often disheartening and sorrowful: the toil of the underpaid town

labourer, amid surroundings depressing to a degree, scarcely to be grasped by the more fortunate, has, at first glance, no silver lining to its dark clouds. It is some consolation to think that there may be truth in the reflection of Mr. W. H. Mallock, that those who have never known greater freedom and more abundant opportunities are not necessarily unhappy, and may, after all, find solid enjoyment in life. This thought may nevertheless be pushed too far, for, if accepted without qualification, it seems to convey that increase of knowledge and opportunity does not add to enjoyment. Does not the Master warn us that the greater the talents, the more must be accomplished? Perhaps one of the compensations of the obscure toiler, is that he need not concern himself so intensely with the future, and with the condition of vast classes. He is more immediately occupied with what surrounds him—his own trials, duties, and aspirations, and those of his family and companions. Culture and knowledge enlarge the sympathies and carry the thoughts over vast regions and many years, but though the horizon is widened, enjoyment may not always be so, unless greater knowledge is accompanied by greater sympathy and more reverent faith. A friend of ours, a brilliant surgeon of national reputation, tells us that when hastily summoned to the great hospital, of which he is so distinguished an ornament, to perform some terrible operation, he cannot, when the sufferer is young and vigorous, keep his thoughts from painfully dwelling on the blighted future before the victim—maimed in life's early morning on the threshold of existence, and he adds that he half envies the indifference of the nurses and the students, who seldom seem to look beneath the surface. We once remember seeing a very commonplace artisan, not at all interesting in appearance and manner, who had had his right hand taken off by that beautiful but terrible instrument, a circular saw: the injured part was skilfully and promptly attended to, and the poor fellow was roughly grateful, but the first words he uttered, when he awoke to a consciousness of the calamity that had befallen him, were, "Done for." The shock of the accident, the torture of the wound were forgotten, and he only thought of the crippled state in which he would pass the remainder of his days. He could not have conveyed his thoughts in elegant language, but perhaps that sturdy Birmingham mechanic felt as acutely the loss of independence, and the hopeless struggle awaiting him for the necessaries of life as a man far more highly trained could have done.

It is some comfort to hope that the poor and neglected do not feel their sufferings as overpoweringly as we should were we placed, without losing our higher aspirations, in similar circumstances. But is it certain that some among them do not feel their misery more intensely than is generally supposed? "Repose," says Dr. Wilks, "is the aspiration of mankind;" and he is right; not sensual qualification, but repose, freedom from anxiety, a mind at peace with itself and the world; but how seldom does repose in this sense sanctify even the greatest and purest lives?

The most painful feature of modern life is the growing uncertainty among the thinking classes as to the destinies of mankind here and hereafter—an uncertainty finding most frequent expression in religious questioning. "Nothing particular is true," his manner said, "and all action is a degrading *pis aller*. Get through the day somehow, with as little harm to yourself and other people as may be; do your duty, if you like it, but for Heaven's sake don't cant about it to other people." In this brief description of Edward Langham's moral attitude, Mrs. Humphry Ward, in "Robert Elsmere," has faithfully rendered the characteristic traits of many modern men of culture. Tens of thousands of lives would become beautiful and useful could they with implicit confidence accept the Divinity of Christ, and believe that man was slowly but surely fighting his way to a higher and happier level. "And meanwhile, half the tragedy of our time lies in the perpetual clashing of two estimates of life—the estimate which is the offspring of the scientific spirit, and which is ever making the visible world fairer and more desirable to mortal eyes; and the estimate of St. Augustine." So says a distinguished living writer. We take exception to the passage. Truth is no doubt one and indivisible, but none the less is it many-sided, and it may be thoroughly examined and distinctly seen by many different minds approaching it from different directions, who, in their several ways, try to live in accordance with it, humbly seeking to do God's will, as they perceive and understand that will. On no other theory could we reconcile the different shades of belief among Christians, all intent, as we venture to hope, on reaching a higher level, and to subject their will to Christ's, and yet holding one another's minor differences in abhorrence, and fixing their thoughts rather on trifling diversities of opinion than on the great, soul inspiring agreements. Not that doubt is confined to our age and country; in many of the sublimest passages of Holy Writ traces are clearly discernible of the same foreboding. "Vanity of vanities," saith the preacher, "all is vanity;" and Job seemed as much distracted by uncertainty as any guesser after truth of our own day. Modern speculations have increased and are increasing the number of doubters, and over many a profound intellect and noble life lies the deep shadow, not of vice, self-indulgence, and passion, but of honest, painful doubt that nothing can solve. Faith is the gift of God, but how few have it in conjunction with a calm, perfectly trained intellect? One of the most accomplished and highly cultured Baptist ministers we ever knew, a man distinguished for scholarship and his ripe, well-balanced judgment, was one day discussing these problems with us. "Now that modern speculations," observed our friend, "are undermining the faith of thousands, and throwing doubt on the cherished beliefs of the past, one thing and one only saves me from utter despair—the certainty that all is working together for good, and that the purposes of God are well established from everlasting to everlasting." But to grasp *this certainty* is *the* difficulty which perplexes so many minds. Is all really working for man's higher good? does God jealously watch over his creatures? The speculations which have assigned to man an antiquity of tens of thousands, perhaps of millions of years, and given the universe an immensity undreamt of till the present century, seem to have deposed this earth and its human tenants from the proud position once occupied by them. To admit that man has existed through incalculable ages, and that the earth is of no more consequence in the universe than a grain of sand on the sea shore compared with the vastness of the universe, can hardly fail to have a depressing influence. We do not admit that the antiquity of man is established beyond question, nor are we convinced that space is peopled to its remotest confines. But were it only possible to the finite mind of man to grasp what is implied by omnipotence, omnipresence, and eternity, it might be conceivable that man had existed and struggled for millions rather than thousands of years, and was one only out of billions of creatures demanding

and receiving the untiring and loving care of the Most High, and yet as well guarded, as tenderly loved as though the human species was of yesterday, and this tiny globe the only inhabited one in space.

Mrs. Humphry Ward, in that remarkable but most melancholy work, "Robert Elsmere," which is being discussed by so many readers, has successfully given in Edward Langham and Henry Grey typical, though totally diverse specimens of the thoughtful, profound, and doubting characters met with in the literary and academical society of the day—men who, though widely diverging the one from the other, long for knowledge and certainty, and are as far removed from the vulgar sceptic and coarse scoffer as one human being can well be unlike another, but who none the less are perplexed and borne down by the problems of existence and religious doubts. "Mother," asks the delicate, large eyed child, Edward Langham, "how is it I dislike the things I dislike so much more than I like the things I like?" After that precocious question, the wasted and melancholy years of a blighted life seem the only possible answer to one "who never had a period in his life, when he was more struck by the difficulty of being morally strong than by the difficulty of being intellectually clear." "Light, light" is the longing of many, who, could they have it, would be earnest, and who would live with a nobler purpose. However little in our nineteenth century wisdom we reverence the saints of the mediæval Church, in one respect they were immeasurably superior to us—in their unquestioning deep-seated belief in the wise purposes and constant presence of God. The recent death of Father Damien has once more drawn attention to the unwavering faith and devotion to duty which sometimes distinguish modern Catholic priests, not less than they did their predecessors in the ages of faith. The life which has only just ended in disease and suffering could not, in one sense, have been happy, although who can doubt that the satisfaction the Belgian hero felt in doing his duty invested him with a sense of the living presence of God, which made life, instead of a slow martyrdom, one of surpassing joy. Millions of votaries of pleasure, who have hardly once denied themselves a gratification, and have perhaps never done a kindly action that involved some self-sacrifice on their part, paused when they heard of the death of the Belgian priest, and felt that it would be well indeed for them could they have borne his cross and worn his crown.

The great requisite for an earnest and successful career in the ministry of the Christian Church is *conviction.* No preacher can pour forth his soul in fervent prayer, and in undimmed aspirations for a higher life unless doubt is banished from his mind. Let the intellect become the prey of uncertainty; let the preacher fancy that all is dark within and without, that he has not realities to deal with, but speculations only, and that the New Testament records are more or less doubtful narratives of uncertain authenticity, and his usefulness is at an end, and he must fix his thoughts on all that is gloomy and awful.

"Happy, in this world, where men sit and hear each other groan!! His friend's confidence only made Langham as melancholy as Job. What was it based on? In the first place on Christianity, on the passionate acceptance of an exquisite fairy tale, said the dreaming spectator to himself, which at the first honest challenge of the critical sense withers in our grasp. That challenge Elsmere has never given it, and in all probability never will."

Were it true that Christianity was only a beautiful fairy tale, it would be a thousand fold better to accept it and take our stand among the millions whom it has sustained in lives of self-sacrifice, and whose death beds it has sanctified, than to give it up, falling into the ranks of melancholy doubters for whom life is a weary pilgrimage, and in whose hearts the sorrows and hopes of their suffering fellows find no sympathetic response. Talk of the enthusiasm of humanity, what is it unless sustained by the consuming love of Christ? Who can preach if his message is uncertain, and win the battle if he beat the air. "The Ritualist may glory in the discomfiture of an Erastian Bishop; what Christian dare parade ten years of love to God and man," but who except a Christian would devote himself to the ungrudging service of mankind.

In earnestness of purpose Abbey Gratry set the doubting Christians of our day a splendid example. "One thing astonishes me," he wrote, "it is to see Christians despairing of the world, and of its progress on the way to justice." He remained to the latest hour an enthusiast. When young he had a dream: before him life was stretched, and looking down it he saw love, honour and fame: suddenly the vision faded away, and he found himself alone: then real religion and the peace of God revealed themselves to him, and filled the void in his existence. The minister of religion ought to be the happiest and most cheerful of mortals—always hopeful, always loving: the first to promote great reforms, to widen, not to narrow; thinking the best of all men, glad if haply he entertains an angel unawares. What kind of spirit is it that sees and believes the worst, and looks on nine-tenths of professing Christians as aliens and foes. An anecdote which has often been related, though we do not know on what authority, is one of the saddest we have ever heard. It is said that after Bishop Heber's consecration to the See of Calcutta it fell to Archbishop Manners Sutton—of unhappy memory—to make a valedictory speech in the course of the luncheon at Lambeth, which followed the ceremony. "I have very little advice to give you as to your future career," he said to the youthful prelate, "but all that experience has given me I hand on to you. Place before your eyes two precepts, and two only: one is, preach the Gospel; and the other is, *put down enthusiasm.*" A minister of religion to talk in this cold and heartless fashion—to advise his brother Bishop to preach the Gospel without enthusiasm." *There* is the key to the scepticism of our days. A shudder comes over us, and we turn with deepened veneration to the ardour of St. Francis of Assisi, and of St. Francis Xavier, and think of that great preacher of our day, Fra Agostino di Montefeltro, borne by tender hands to the pulpit, which he was too ill to reach unaided; and in the greater zeal of the Catholic over the Anglican, we see a proof that Christianity is something broader and nobler than formulas and rituals, something deep down in the very heart of man. What marvellous faith Gratry had. He once exclaimed that if only twelve men were absolutely bent on doing God's will, and ready to proclaim it even unto death, they would usher in a new epoch in the world's history. And yet he loved the world intensely, not for its pleasures, pomps, and vanities, but for the sake of its Divine Master. He had an intellect that would bear comparison with that of most leaders and masters of mankind, and he was satisfied with Christianity, and in being satisfied found that peace, which Mrs. Ward describes Edward Langham as failing to secure, because he refused to believe and accept. Half the value of a doctor's

ministrations is lost if he has not cheerful resignation and lively faith; he shows to most advantage when he is a messenger of glad tidings. We know nothing more life-like than the brief sentence in which the author of "Robert Elsmere" embodies the cause of Langham's misery: his refusal to be satisfied, his stubborn determination not to allow his intellect to acquiesce in the truths of the Gospel. "He imagines he has satisfied his intellect," Langham remarks of Elsmere, when the latter at the commencement of his ministry believes and rejoices to believe, "and he has never so much as exerted it." In other words, Langham demanded proofs which, in the very nature of things, can never be forthcoming. Mathematical proof cannot be looked for in matters concerning the emotions. Do we love a man and judge him to be upright, noble, and generous as the result of weighing evidence? Do we not *feel* that he is good and pure? In like manner the strongest evidence that Christ was Divine, and really came from God, will be found in the reverent conviction that no mere man could accomplish what he did, and so completely captivate the hearts and lives of millions. Faith has its seat in the heart rather than in the intellect; it springs from a consuming love of Christ, not from a cold, critical inquiry into the evidences of Christianity, though the more carefully and thoroughly those evidences are examined the deeper must be the conviction in most minds that they are unassailable. "Savonarola," says Castelar, "would, under different circumstances, undoubtedly have been a good husband, a tender father; a man unknown to history, utterly powerless to print upon the sands of time and upon the human soul the deep traces which he has left; but misfortune came to visit him, to crush his heart, and to impart that marked melancholy which characterises a soul in grief; and the grief which circled his brows with a crown of thorns was also that which wreathed them with the splendour of immortality. His hopes were centred in the woman he loved; his life was set upon the possession of her, and when her family finally rejected him, partly on account of his profession, partly on account of his person, he believed that it was death that had come upon him, when in truth it was immortality."

The uncertainty attending modern speculations, when separated from the affections and the heart, cast a shadow over the future, which deprives many a death bed of its peace. It has been beautifully said that truth may be evolved from conflict, but never from confusion, and confusion is the frame of mind in which many modern thinkers pass their whole careers: without confidence in any creed, accepting nothing, merely giving a cold formal assent to certain general truths; they may have strength of will, but it lacks a worthy object to direct it; life is wasted, years glide swiftly by, and the bright hopes of youth fade away never to return.

"He felt that quite indisputably life would have been better worthy living if, like Robert Elsmere, he could have taken a passionate interest in rare moths or common ploughboys; but nature having denied him the possibility, there was small use in grumbling."

Some worthy object in life is what most men need, and one of the chief glories of Christianity is that it gives an object that taxes the most gifted, but is not beyond the grasp of the most ignorant and degraded. At best life is so short; so much has to be accomplished, while we have so little knowledge to sustain us. Few are those who, when they have struggled through life, and the end is fast approaching, wish to be young again. Most people dread to die; nearly all would prolong existence if they could: but to go over the same disappointments and griefs—no! Terrible to pass for ever from the bright sunshine, the birds' merry songs, the beauties of nature, the ceaseless progress of humanity, and to go forth alone into the darkness, silence and loneliness of the grave; that moment tries the strongest faith. The profoundest believer in the wisdom and tenderness of God, whose life has been less stained than usual by evil passion and self seeking, can hardly help a shudder as he thinks of the other world. He may be certain that all is for the best, that progress is eternal, and that out of evil good will infallibly come; but when death hovers over him he feels it to be awful, and yet, according to our experience—a sufficiently large and varied one—there is seldom any wish to re-enter the battle. The exquisite words of Lady Nairne, written in her seventy-sixth year, strike a respondent chord in most thoughtful hearts:

> "Would you be young again? So would not I;
> One tear to memory given, onward I'd hie;
> Life's dark flood forded o'er, all but at rest on shore:
> Say, would you plunge once more, with home so nigh?"

If in the supreme moment of his career the Christian is filled with doubt, how much more despairing is the death struggle of the man who has been drifting hither and thither without goal and without rudder?

There is something beautifully quaint in the dying words of the poor old Scotch woman, recorded by Dr. Boyd. The storm was beating furiously, the rain descending in torrents, and as she listened she calmly exclaimed, "What a fearful night for me to be flying through the air;" a composure that would do honour to a stoic, and might be envied by any Christian minister. Death cannot be avoided, and physical suffering must be heroically faced in the spirit of that German Emperor whose patient endurance has invested his memory with a thousandfold greater glory than that which adorns it as the victor in a hundred battles. The great thing in passing through life, however, is to combine faith with reason, and enjoyment with self-sacrifice. To believe, as the child believes a fairy tale, cannot satisfy the longing, reasoning soul of man; to demand proof, which cannot be vouchsafed, is to push the province of the intellect too far; to fly from the world is as reprehensible as to live for it. Life is real and earnest, but it ought to be full of joy. Was this beautiful world intended to be a sealed book? Are the treasures of art and literature, and song and architecture to be put away from the Christian's thoughts? We know a pious man, a physician, a gold medalist in classics, who lives only to study his Bible. What a melancholy contrast to Robert Hall mastering Italian just before his death, when racked with bodily anguish, to be the better able to enter into the spirit of Macaulay's criticism of Dante. When one day our friend was asked if he had read a remarkable work, which was the common talk of everyone, he answered severely that he only needed his Bible, and read nothing else. Splendid faith! some would exclaim. Ah, no! morbid asceticism, not less reprehensible than that of the man who flies from the world, and lives a life of self-concentration. The sympathies are narrowed by such a misconception of religion, the joys of life vanish, and the capacity to preach and teach is undermined. We heard not long ago with sorrow, but no surprise, that our friend was ill, and confined to his couch a helpless, suffering invalid in the full vigour of manhood. He would have used the language of

Mrs. Humphry Ward. "How could it be lawful for the Christian to spend the few short years of the earthly combat in any pursuit, however noble and exquisite, which merely aimed at the gratification of the senses, and implied in the pursuer the emphasising rather than the surrender of self. . . . . So for a short week or two Catherine Leyburn did her best to be young, and climbed the mountain grass, or forded the mountain streams with the energy and the grace of perfect health, trembling afterwards at night, as she knelt by her window, to think how much sheer pleasure the day had contained. Her life had always had the tension of a bent bow. . . . . And in a hundred other ways the relations of Mrs. Elsmere—Robert Elsmere's mother—with the poor of the parish often made Catherine miserable. She herself had the most angelic pity and tenderness for sorrows and sinners, but sin was sin to her, and when she saw Mrs. Elsmere more than half attracted by the stronger vices, and in many cases more inclined to laugh with what was human in them than to weep over what was vile, Robert's wife would go away and wrestle with herself that she might be betrayed into nothing harsh towards Robert's mother." There is no need to pass life in the absorbing pursuit of pleasure; but pleasure can be combined with duty, and life may in consequence be made a still better discipline.

The death scene of Mr. Leyburn is drawn with great beauty. After years of asceticism, as complete as that of any Franciscan or Cistercian monk, though wearing a different aspect, the end came to a life spent in God's service, and in brooding over the most subtle problems of religion. "Catherine," exclaimed the dying clergyman, "life is harder, the narrow way narrower than ever: I die;" and memory caught still the piteous, long-drawn breath by which the voice was broken "in much, much perplexity about many things. You have a clear mind, an iron will. Strengthen the others. Bring them safe to the day of account." "Yes," she answered, "Father, with God's help; oh! with God's help;" and from that day, denying herself, turning life into a veritable martydom, a perpetual repression of self, she lived on until she "knew of no supreme right but the right of God to the obedience of man." None can deny the beauty of this grand portrait of a stern, resolute, devoted woman, though many may doubt the need for that anguish and that uncompromising self-repression. "She had thought and prayed as girl and woman; she had often wrestled with despondency or grief, or some of those subtle spiritual temptations which were all which her pure faith had known, till the inner light had dawned again, and the humble, enraptured soul could almost have traced amid the shadows of that dappled moorland world between her and the clouds the white stoles and sleeping wings of ministering angels."

Religion should do still another thing: it should teach tolerance, universal compassion. In the worst of men the traces of the divine nature, obscured by sin and earthly passion, should still be distinctly perceived, and then the words of Catherine Leyburn, poured from her full heart, could never be uttered: "My father would have shrunk from him with horror; an alien from the household of faith, an enemy to the cross of Christ." How hard it is to most people to enter into the spirit of the Master! Surely no one ever had an infinitesimal portion of the loathing of iniquity which He had, and yet when the woman taken in the commission of grievous sin was brought to Him for condemnation, He did not condemn, though the Gospel narrative leaves us in no doubt that the guilty creature left his presence a thousandfold more impressed by his gentle rebuke than she would have been by the best meant homily on duty. The man who has drunk deep of the wells of truth should come in and out from the worst haunts of vice without the smallest sacrifice of dignity and purity. Lytton, in "Kenelm Chillingly," represents that eccentric hero as comporting himself more in the Master's spirit than did Catherine Leyburn in talking over the darker traits of Edward Langham's character, and there is something exquisitely touching in Kenelm Chillingly's reply to the fallen girl who seized his arm in the street. "Are you kind to-night," she inquired, in a husky, hard voice. "Kind," replied the melancholy Cambridge scholar, in mournful tones and with softened eyes; "kind, alas! my poor sister mortal, if pity be kindness, who can see you and not be kind."

The mysticism and philosophy of the child of eight who had asked his mother whether she was not sometimes overpowered by the sense of her own identity, had developed into something practical and human. If religion is only to make us unhappy, could the religious man truthfully answer in the affirmative the solemn, heartstirring question: "Is life worth living?" We are astonished how few people are able to combine pleasure with self-restraint, love of others with love of God; to be in the world, loving it intensely and revelling in it, but yet not of the world, and getting good from all things not absolutely bad. The old melancholy legend that no smile ever irradiated the Master's face strikes some people as indescribably beautiful, though to us it is depressing. What! no smile on the lineaments of Him who graced the marriage feast of Cana, extended the hand of love to the Magdalen, and sternly reproved the disciples who would have kept the little children away? Equally foreign must have been maudlin sentimentality and cruel indifference—the sentimentality which finds expression in empty words, in cant; the cruel indifference of the heartless sceptic who has his own enjoyment, and cares not a jot for anyone else. "By and by, however, as the rector penetrated more deeply into the situation, he found his indignation transferring itself more and more from the man to his Master. It became clear to him that in some respects Henslowe suited the Squire admirably. It became also clear to him that the Squire had taken pains for years to let it be known that he cared not one rap for any human being on his estate in any other capacity than as a rent payer or wage receiver. What! live for thirty years in that great house, and never care whether your tenants and labourers lived like pigs or like men, whether the old people died of damp, or the children of diphtheria, which you might have prevented. Robert Elsmere's brow grew dark over it. . . . The only constant defence which the poor have against such physical conditions as those which prevailed at Mile End is apathy." But beneath that apathy, as it seems, there is often to be found a depth of faith and a resignation which the proudest might envy.

Patience under suffering is not, thank Heaven, confined to the high born and powerful. The lowly peasant often displays it in great perfection, and were he a peer or a statesman the world would ring with his praise. A few months ago we saw for the last time a humble Dorset labourer, not the coarse monster which the Dorset peasant is often represented to be, but a gentleman in the loftiest sense—refined, courteous, and considerate. He was dying of cancer, and his wife, a tall, fine-looking, heroic woman, who expressed

herself admirably, and with a precision which few ladies could approach, was talking over the family circumstances. Of course she and her husband were poor, farm labourers always are that, but there was no repining, and they bore their lot with fortitude and unshaken trust in God. It is one thing to die in a handsome bedroom, with skilful nurses and attached physicians at hand, and the luxuries and conveniences of modern life at command; another to pass away in a mean draughty cottage, friendless and alone, with three shillings and sixpence a week to provide for all the household wants. "Ah," she said, "if the farmers would only have a little consideration, and do their best to provide work, but then we know that they have been having bad times, and perhaps it is not their fault." When her excellent husband died, she showed just the same heroism—sorrowful, but not cast down, rejoicing in the sure promises of God. Many of the poor are bad, degraded and brutal, but very far from all, and in proportion to their numbers perhaps as many heroes are to be found among peasants and artizans as among the high born and powerful. A year ago we were visiting another poor labourer, dying of consumption in the prime of life, a noble looking man with a grand, refined, expressive countenance, and a remarkable dignity of manner, He and his wife and two children had only five shillings a week; but not a word of complaint fell from his lips, though he had a deep-consuming sorrow—the dread that as soon as he was dead his wife and children would be compelled to give up the little cottage, and so lose the potatoes and other vegetables which, earlier in the year, he had still been strong enough to plant. The steward was hard, and no time, the dying man feared, would be lost in getting rid of his wife and family. We promised to use our influence with the nobleman who owned the village, and before us there lies his promise that every kindness and consideration should be extended to the survivors. Death hanging over the bed, and the thoughts fixed on potatoes and vegetables, and a mean cottage in which a wealthy man would hardly keep his horses! Is this heroism, unselfishness? Yes; his own penury and sufferings were forgotten, and his thoughts turned in tender solitude to those dearer than life . to know that his loved ones would be spared the torture of ejectment, and not be deprived of the food which he had toiled to provide—that satisfied his simple wants, and soothed his dying hour. We do not think that the rich can without a very great effort enter into the sorrows of the poor; nay, we will go further, we do not believe that, with rare exceptions, they have the necessary sympathy to come out of themselves and understand the feelings of their less fortunate, but not necessarily less deserving, brethren; and yet we venture to say, with full conviction, that if a person has the necessary qualities of mind and manner, if he will descend from his lofty pedestal of pride and self-importance, and strive to know the poor, he will find the study deeply interesting, and his faith in God and man will be strengthened and purified. The poor receive little kindness; though sometimes touchingly grateful for small attentions, and they respond as the rich never do.

"Robert Elsmere" ends gloomily: the hard-hearted Squire dies miserably; Edward Langham fritters away his days; while the hero, who does not impress us so favourably as he has Mr. Gladstone, as a splendid specimen of the highest culture and refinement of Oxford, but rather seems a warm-hearted but weak-brained enthusiast, little likely to get a fellowship, and to captivate the intellect of the first men of that ancient seat of learning, at first finds happiness in the duties of his country parish. The Squire never rests till he destroys his faith, and undermines his belief in the Christ of history. Robert Elsmere, however, does not become an atheist like his preceptor, but flies off and founds in a back street at the East End a new sect, which we are assured solved all the difficulties attendant on life, and answered conclusively in the affirmative the solemn question —"Is life worth living?" But, alas! the unstable apostle of the new creed, feeble physically if not intellectually, soon goes into a decline, and after destroying his wife's happiness and peace of mind, and not apparently doing much good in any way, leaves England to die under the bright sun of northern Africa: altogether an unsatisfactory life, and a miserable ending to it, more likely to be a warning than an example.

A young clergyman has just said to us that no wonder medical men are commonly sceptics, for they see so much of the evil side of human nature, and the lessons of the out-patient room and the operating theatre cannot but be bad. We deny the truth of both allegations, and we think that the more heartily the doctor believes in the grandeur of life and in the blessedness of living the more likely is he to discharge his glorious mission as a Christian and a gentleman.

Life to be happy must be earnest, trustful and believing: there must be a constant striving for a higher level, inspired by the conviction that such a struggle will be successful, and that He who watches over all is a real, living, omnipresent, omnipotent God, who has declared in accents that ought to penetrate into every heart that *life is worth living*, when entered upon in a right spirit and with due preparation.

CYCLING IN ITS RELATION TO HEALTH.

By W. Armstrong Willis, Monmouth.

No apology whatever is needed for dealing with cycling in the pages of a medical periodical, for an increasingly large number of medical men are taking to it, and are recommending it to their clients. At the same time an almost incredible amount of stupidity still prevails, and many apparently well-informed people are ignorant of everything pertaining to cycling. They look upon it as costly, dangerous, and laborious, and fail to see that it is capable of being turned to the greatest possible use in every-day life. Country clergymen and doctors should use tricycles, if not bicycles, and would find them profitable and pleasant; rural postmen constantly now take advantage of them, and carry loads which would, but for their help, need a cart and a good horse. Patients are much in the habit of consulting their medical advisers, and looking to them for guidance, as to the expediency of cycling exercise; hence my apology, but I will first of all give what I may call my personal narrative.

I am within a measurable distance of thirty—that time of life, when, according to many modern medical authorities, the heart begins to get weak, and exertion becomes dangerous unless indulged in very carefully and temperately, and even then only after special training; in short, though not yet exactly old, I see old age just ahead. My life, too, is a very valuable one, not perhaps to the world at large, nor to my large circle of friends—and I mean by friends those disinterested individuals who will always accept an invitation to dinner, but who don't seem to see that they are

the obliged, and not I—but to myself, and so I am very chary of it, and guard it all I can from everything that may injure or imperil it. When, therefore, my esteemed friend Dr. Crespi, of Wimborne, said to me one day, pensively, "You have ceased to grow longitudinally though not latitudinally; you ought to take more exercise," I was struck. I knew my friend's delicate sense of humour, and that word "latitudinally" commanded my respect; I took off my hat and bowed; clearly at twenty-seven we don't grow longitudinally, though some of us begin to expand, as we find to our cost when with three other individuals as nobly proportioned we seat ourselves in a railway carriage, intended to hold five, as a very mendacious inscription above our heads informs us, and we find that from the horrible vice of scamping their work the carpenters have left out a yard from the proper dimensions of the seats, so that there is just room for three comfortably, one at each end, and one in the middle, though a fourth can, with a mighty effort be squeezed in; where the fifth is to go I can't conceive—in the hat rack perhaps. "Exercise," I replied, "why I take no end—I pass much time eating and drinking, and very good and necessary exercise it is too; then I read the newspaper, look out of the window, and if I find anything very lively I skip the last French novel; what more would you have?" "You must," he replied, solemnly, "get a tricycle and use it regularly." Now I don't care to throw my hard earned money away on experiments, and dangerous ones too, on my precious life, and I had heard so much of the herculean labour of propelling a tricycle up hill, and of the catastrophe often befalling well developed riders of middle age, that is, on the border line between youth and that time of life when a dressing gown and an arm chair seem the proper thing, that I felt I was bound to protest. "Do you know," I rejoined, "that it is universally agreed that a brilliant future awaits me? My father fully counts on my retrieving the family fortunes, and as for my mother, she thinks that with the exception of John Ruskin, I am the most brilliant and accomplished of the coming men of the age. Mothers you know are always proud of their sons, and mine is no exception to the general rule; she knows my worth, and would not lose me for all the world." Here, I thought, I had posed my friend, but he was not to be silenced. "I will," he rejoined, "get you a tricycle, and you shall have the use of it as long as you like." A few days later a machine made its appearance, and then behold me, the great literary artist of the future, the delight of his mamma, and the admiration of countless friends, with some difficulty hoisted into the saddle; and there I sat, the thing would not stir, though I sat patiently waiting for it to go. "You must work the pedals," expostulated my friend; then I tried, and I was soon convinced that the man who invented tricycles to save human labour was a humbug. I tugged at the handles, twisted the steering wheel, and worked away frantically with my feet—the thing would not stir; then a happy thought struck me—"I will get off," I said, "and push it, that will be good exercise," and before anyone could stop me I was off, I mean I had got down, and I began to push, but so stiff were all its joints that I soon found that would not do; besides I was to ride the tricycle, not carry it; a wheelbarrow full of stones would have done as well for the latter purpose. Then the thing would not go straight when it did begin to move; in half a minute I was against a wall, and before I had well started the horrid invention again, someone shouted, "Where are you coming, keep to your own side." Rather mortified, I mounted again, and made another attempt, when instead of going forwards the machine began to move backwards, and had I not hastily scrambled out I don't know what would have happened: the great luminary of the future might have been extinguished; the family fortunes would not have been retrieved, and John Ruskin, much to my mother's chagrin, might have been left in undisturbed possession of the literary arena.

But an Englishman never knows when he is beaten, though sometimes he runs away before fighting begins to save time, and I resolutely tried again. Rome was not built in a day, and I could not expect to become the equal of Holbein and Marriott the first time I tried. Comforting myself with the reflection that I resembled the heroes of the Consular Guard at Marengo, whose troubles, however, only lasted a few hours, while mine endured for days, if not weeks. I stuck to tricycling, and now I feel that I have added another to my many accomplishments of person and mind. Behold me then a graceful wheelman ready to dare anything and break any record. When I hear of any specially notable feat I ask myself, "Could I beat that?" I daresay I could, if I only tried long enough—perseverance will move mountains, but so far I have not won any prizes and not appeared in print as a champion of cycling. When I heard that my friend Richardson, of hygeian and tricycling fame—cold water Richardson—talked of Holbein's magnificent achievement—324 miles in twenty-four hours, on one of Hillman's Premiers—I turned the matter over in my mind. I was not sure that I could have done better, though I daresay with proper training, on good roads, I could have done the twenty-four miles, if I only started early enough in the day, and gave myself plenty of time. No, I don't somehow fancy racing and breaking records would be decorous on the part of an elderly gentleman who is growing latitudinally (I like the word, it is so suggestive and elegant), but I will guarantee to keep up with anyone, champion or amateur, who goes no faster than myself, and that is my challenge to the whole world.

My personal narrative being told, and the steps related which took me from the painful and timorous beginning of my career to my present exalted position as the possible record breaker of the future, I must deal with the matter more generally and for the benefit of the many country and town doctors, who want some information from an expert, and that information I gladly offer them.

The Rev. R. A. Chudleigh, in a capital paper in *Farm and Home*, of July 20th last, excellently summarised everything that could be said on the subject for the benefit of beginners. Indeed, I don't know that I could have conveyed that information very much better and more lucidly myself, though one never knows what one can do till one tries, but I have no intention of trying. My readers are referred to his charming paper. My principal points will be these—is tricycling safe, pleasant, useful, and easy?

As for its safety, with moderate care accidents are almost incredibly rare, and chiefly occur from turning sharp corners rapidly and going down hill too quickly, and, occasionally, from collisions. Even the latter are usually preventible. Never mind, although your life is heavily insured, and the profession is greatly overcrowded, so that a few vacancies would be welcomed, go round corners quietly, giving them a wide berth; go down hill cautiously, taking care that you have ample brake power, and be exceedingly cautious in passing carriages. If you will persist in trying to force your

way between two carriages close together, as you can't very well sweep both carriages out of your path, though you will probably succeed in frightening the horses, which does not improve matters as far as you are concerned, you are pretty sure to come to grief; and if you try to tear round a sharp corner you will infallibly capsize, and there will be work for the tricycle mender and the doctor—the latter, if you happen to be a surgeon, would be too bad, for dog won't eat dog—I mean doctors don't charge one another—and the reward which sweetens labour they could not look for from attending one another. Nevertheless, with reasonable care and after a little—a very little—practice, cycling is as safe as walking, and bicycling is even safer than tricycling—collisions are rarer, and corners can be more safely turned.

As for the pleasantness of the exercise, that depends a little, a very little, on the roads and the hills. At first cycling is a painful effort, though the first day is the worst, and facility rapidly comes with practice; but pain and effort do not last many days, and by beginning with a mile or two a day, and gradually increasing the distance covered, the time soon comes when even a man who has ceased to grow longitudinally will get over thirty or forty miles without turning a hair, without conscious effort, and without the smallest subsequent fatigue. Then there is a singular, indeed an indescribable charm in the rapidity of motion—flying along at seven or eight, or even ten miles an hour, and so bringing many places within easy reach, which were before impossible to get to; and that rapidity of motion is compassed by our own exertions, that is the best of it.

For country doctors a tricycle is a positive luxury: they can, when the roads are good, pay special visits, particularly on summer evenings, and so actually rest themselves, as it were, while sparing themselves and their men. A good wheelman would run a dozen miles altogether and pay an ordinary visit in a couple of hours. Hills are a drawback, certainly, but it is positively amazing how quickly the legs seem to gain strength. I only wish my aristocratic friends could see me flying along, courteously smiling at acquaintances. Hills! what are they to me now? nothing, though once, before I took to tricycling, I panted up them on foot, and when I reached the top, oh! it was dreadful to think of jolting down them to the bottom: positively, I was often tempted to try to roll down them, only I might have rolled into the ditch, or under the feet of spirited horses, and neither would have been pleasant nor particularly safe; now, the steeper the hill the greater the pleasure, for going down, on a first-rate tricycle, with good brake power, is so soothing. I throw myself back in my saddle, half close my weary eyes, and only wish my mamma could see the future Ruskin gliding swiftly, not to destruction, but to his destination, that brilliant future which I am more and more convinced awaits me. When the country is hilly, well, the hills must be surmounted on horseback, in a carriage, on a cycle, or on foot, and with a proper machine it takes a good steep hill to stop a practised cyclist.

As for the utility of cycling, well, I sometimes go in to my friend Dr. Crespi's, taking a large parcel of books, which, not even the certainty of being forthwith recognised as Ruskin's successor would induce me to carry, and I feel no inconvenience, and I have often carried heavy packages weighing thirty pounds; mile after mile I fly along, not giving the burden under me a second thought, and doing the pedalling automatically, going at double the rate I could have managed on foot, I mean which I could have reached in those days when, not having ceased to grow longitudinally, the rapidity of my movements delighted and surprised my friends, especially when, as an infant, I sometimes missed my footing and rolled down from top to bottom of a couple of long flights of stairs.

A few hints are necessary on the choice of a machine. A learner should use hired ones; they are used to being upset, and it does them no harm, besides, every rider requires his own machine, adapted to his height, weight, and to the special character of the country. For busy doctors who have no wish to break records and to figure in the annals of cycling, great speed and endurance are not requisite; indeed, I should hint at the prudence of not getting over the ground too rapidly, or special visits, at very inconvenient hours, will have a tendency to multiply, and the man who boasts that he can do his twelve miles an hour will have plenty of opportunities of putting his powers to the test; people will send for him just to give him extra opportunities of showing his skill to the greatest advantage. Every rider should choose a good, easy, strong modern machine with efficient brake power, a comfortable seat or saddle, bright lamps, and places for carrying a bag or a parcel: he should not lend it to anyone, but keep it for his own use, and it will get to know him and he it.

A medical man very commonly after giving his patient his prescriptions and an elaborate diet-card concludes with the remark "You must take plenty of exercise." It is a very sensible and proper corollary to his previous recommendations, yet when people are not rich, it is not easily carried out. If a man is young, at leisure, and well-off, then nothing is simpler than to mount his horse, take to boating, or carry out the command by frequenting the cricket or football field; to large numbers of both sexes whose sight is good there is also the tennis lawn. However, for various reasons, it will be often found that for many health-seekers these ordinary relaxations of our British youth are not available. Excluding horse-exercise as an expensive, and to many an unattainable, luxury, many a stout middle-aged man is not desirous to appear in the afternoon of life in the attitude of a learner of what he considers, perhaps too frivolously, as "games." Those acerb young gentlemen, who wrote smart letters in a recent newspaper correspondence about the compulsory athletics of the most famous of our public schools would scarcely be indulgent instructors of football, cricket or boating to an elderly man, urged by his doctor to "take exercise." As to pedestrian exercise, nothing is better than a brisk walk, amid pleasant scenery, with an object for it, or an agreeable companion; nothing is more delightful, exhilarating, or of higher tonic value than a tramp across country, over hill and dale. Unfortunately, it is not easy to obtain all, or even any of these accompaniments, absolutely necessary as they are to make a walk of any good from a medical point of view. Many of us have melancholy recollections of those walks, called "constitutional," a word which in its time has covered a hideous amount of fatigue, ennui, and weariness. Pounding along a filthy country road for five miles out and five miles in, for exercise, even in youth, when we have health and strength as our capital in the Bank of Life still undrawn on, is a fatiguing, wearisome performance and penance. The solitary student to be met taking his daily "grind" along the level roads near Cambridge rarely seems, to judge from his facial expression, to be enjoying himself; much less will a person of maturer years, and presumably decreased powers of active breathing

and motion, like such exercise as can be taken on foot, for a long period. Walking for many is productive of much discomfort, and it is hard to imagine any good result accruing from exertion, which causes the middle aged, those approaching thirty, to complain of exhaustion, tender feet, swollen ankles, shaken knees, and not uncommonly a bad headache into the bargain. Now for these poor creatures, undoubtedly cycling may be a blessed prescription; it is a capital exercise for the invalid and an invaluable way to keep the robust in health; it must be added that "cycling" in this article mainly refers to the use of tricycles. Tricycles have a great and obvious advantage over bicycles, they are suitable to both sexes, and may be used with satisfactory results by man, woman and child. Little exists requiring learning, and two minutes suffice to acquaint the novice with the arts of steering, putting on the brake, and pressing the treadles with sufficient force to obtain the required motion, especially if the beginner has not daunted himself by reading any of the sadly faddy and elaborate directions given in manuals for novices. It is perhaps well not to overdo it at first; a beginner ought to limit himself or herself to two spells of half an hour each for the initial attempts on the tricycle, gradually increasing with the learner's growing facility and enjoyment of the exercise. It is impossible to to lay down, in a general account like the present, any hard or fast rule as to distances and time of accomplishing given distances to be attempted by an average man or woman. The records of athletes are as suprising on the tricycle as they are in every other modern field of championship; they are to be taken by ordinary cyclists as horrid warnings and by no means to be considered worthy of emulation. Roughly speaking, a middle-aged man or woman, on an average machine, with a fair road and no opposing wind, will find seven miles an hour a pleasant rate of progression. From twenty to five-and-twenty miles will not be excessive if taken in two halves, with a suitable rest intervening. Personal experience points out clearly to me that the pleasantest of all exercise, and the least tiring, is a combination of walking and cycling. A person can cycle ten miles, take a brief walk, or do a little shopping, and return ten miles to his starting point, without experiencing the least fatigue. Tricycling and walking of course bring into play different sets of muscles; when the same muscle may be used in both processes, it is in a somewhat different way. This accounts for the rest experienced after cycling or walking, or vice-versa. In cycling the whole weight of the trunk of the body is taken off the lower limbs, while the concussion caused by the descent of the foot on the ground is prevented—a great saving; during any ordinary effort on a cycle there is no strain on the muscles of respiration. The work is done by the lower limbs, and without strain of tendon or friction of the sole of the foot, or weariness of the ankle and knee. Whenever a rider feels stomach-exhaustion from riding, is unable to take food with appetite, or digests slowly after the ride, he is told as plainly as words could tell him that his nervous tone, at the centre of life, the stomach, is exhausted, and that he had better do no more until he has rested completely.

There are some common-place suggestions which are quite worth while impressing on the beginner, who—especially if feminine—may be in need of some initial counsel. To begin with, it is not rational to go round corners at full speed: if your steering wheel is in front, lean forward going down hill; if the steering wheel is behind, it is wise to throw one's weight back, for unless this wheel has a firm grip of the ground, the steering down hill may be uncertain, and loose stones or inequalities in the road may prove a source of danger. Going down hill, if by chance the feet get off the treadles, it is never worth while to try to replace them; in attempting to get the feet on again, attention is often diverted from the steering, and one is landed in the hedge or on the road; at all times looking over one's shoulder is to be avoided as an unfailing danger. It is to be borne in mind that however rapidly the cycle is going, perhaps hurrying one into some approaching danger, at the risk of a skinned hand, one can save one's skull by laying one's hands and arms on the tyres of the two wheels; but this of course should only be done in an emergency, when one is rushing into a collision, or about to massacre innocents in a perambulator. The questions of saddles and broad seats is rather hotly debated: experienced riders prefer the saddle, but the broad seat is quite free from the reproach of perinæal pressure, which is sometimes hurled at the former. As to clothing, in this—as in all other active exercises—it is well to have flannel next the skin; a hard hat would be an undoubted advantage if one were thrown, as it would ward off or deaden a blow to the head. For men, knickerbockers, and for women the "divided skirt," have many and warm advocates; these are useful adjuncts, but no distinctive costume is absolutely necessary for cycling; this is a great advantage for those timid people who have a natural dislike to make "guys" of themselves. It is found by experience that the great charm of cycling is its exhilarating influence on the spirits; the sense of rapid, unjarring movement through the air has the most cheering effect, and few exercises, in so short a time, so wonderfully relieve any feeling of mental depression or brain weariness. It is, where practicable, an invaluable sedative, and should be tried by those numerous victims of insomnia, that complaint which may almost be called the "*maladie du siècle*," for it is certainly a great help in inducing sleep, and a general feeling of tranquil well-being.

Last Tuesday, in my ardour to be thoroughly posted up in the latest advances of cycling, I made my way to the largest cycling works in the world—those of Hillman, Herbert, and Cooper, of Coventry—and picked up all I could about the present and future of the art, and when I left was considerably wiser than on my arrival. At the risk of telling some of my readers stale news I will give them the cream of what I gathered. *Sociables* and *tandems* are not often made now; while bicycles are rapidly leaving tricycles out in the cold. This very year the number of the former has enormously increased, and probably seven are made for one tricycle. Prices have not fallen for good machines, though those now made are better finished, last longer, and are easier made. As everyone knows, the size of the machines in use has been much reduced of late, so that many of the best modern ones look like toys compared with the large unwieldly things of a dozen years ago, and in consequence of the small size of bicycles many people now commonly ride them who, till recently, would never have ventured upon anything so risky, so that the proportion of tricycles will certainly decline more and more rapidly.

Dr. Richardson told a friend of mine that he was using a tricycle weighing only fifty pounds, and of course such machines can easily be made, but they are far too light for the wear and tear of ordinary roads, and are not to be recommended: from seventy to eighty pounds is a fair

average weight, and it is not found to be any great effort to propel such a machine. A great modern step was the introduction of ball-bearings, that is, tiny steel balls, working in double grooves, and lessening friction to a notable extent: wherever there is motion ball-bearings can be used, and the pedals can be fitted with them.

As for its relation to health, I have surely said enough; anyone who can walk upstairs, or climb the most gentle elevation, can tricycle, even if he cannot bicycle, though the latter is very much easier in these days of safeties than commonly supposed. Effort there is practically none; and Richardson's estimate that one mile on foot, or two on horseback, is more fatiguing than six on a cycle is perfectly true; indeed, with the recent unparalleled advances in cycle manufacture, one might say that on good roads, one mile on foot, or three on an easy horse, would try one more than nine or ten on a cycle.

Yesterday I met my good friend Dr. Jones, of Mudtown. He is very decidedly stout; indeed, if I look like a small mountain, he looks like a very large mountain indeed. Well, I began telling him of my recent achievements as a wheelman, when my friend remarked that every doctor ought to have a good modern tricycle. He had had one for two years, which, he said, was worth more to him than anything he had ever bought in all his life. He had given twenty-two guineas for it, and thrown in a tricycle of older fashion; "but," continued Dr. Jones, "there is not a hill that I can't get up, not a visit that I can't pay on it: the only thing that beats it is a convenient train, and when I can get a good train I don't cycle; but barring good trains the cycle beats all else."

And if good for the doctor, the young, the strong, the active, in short for all not growing longitudinally, how good for invalids: to them time is no object; they can have their comfortable machine, settle themselves in it, and work on steadily, choosing the easiest and best roads, and so fully vindicate the value of cycling as a means of health, as well as the most delightful of all amusements.

THERAPEUTICAL NOTES.

From our Berlin Correspondent.

Lassar's "Hair Cure"—Chloroform in Whooping Cough—Cocain Poisoning—Tannic Acid for Burns—Iodoform in Chronic Cystitis—Iodoform in Tuberculosis.

Dr. Eugen Graetzer, of Sprottau, publishes in the *Therapeutische Monatshefte* an article on Lassar's cure for alopecy. He draws attention to the fact that alopecy and its treatment is more neglected by the public and medical men than any other department of the art of healing, and that it is generally not even looked on as an ailment, but more as a kind of blessing from heaven, towards which stoic resignation is the only thing to be done. Lassar, however, published a paper on "Hair Cures," in which he strongly recommends his method, which proved to be of excellent service in more than a thousand cases, not only of alopecia pityrodes, but also of area celsi, a disease which, he thinks, is highly suspicious with regard to contagious properties. The treatment, executed by a specially-trained hand, is day after day continued, for at least six to eight weeks. It consists of the following different stages:

First Stage.—A strong tar soap is applied to the scalp for at least ten minutes.

Second Stage.—Removal of soap by a tepid water douche, the water to be gradually cooled, the scalp to be well dried afterwards.

Third Stage.—The scalp to be shampooed with the following solution:

℞ Hydrarg. bichlorid. corrosiv. ..... gr. x.
Glycerin. .....
Spirit rect. .....āā ʒij.
Aq. distill. ..... ʒv.
F. fiat solutio. S. For ext. use.

Fourth Stage.—Shampooing of head with absolute alcohol, to which half per cent. of naphtol has been added.

Fifth Stage.—The following solution to be well rubbed into the skin:

℞ Acid salicyl. ..... gr. xxx.
Tinct. benzoic..... ʒi.
Ol. ped. taur. .....ad. ʒiii.

Graetzer found this treatment most useful and efficaceous in private practice, and therefore does not hesitate to recommend it to the profession. He says that with such a powerful method of treatment in view the present indifference of medical men with regard to the treatment of alopecy ought to be given up.

Dr. Schilling, of Nürnberg, published a new method of treating whooping-cough, consisting of inhalations of chloroform water. Salkowski discovered that aq. chloroformi (1 in 200) possesses powerful antiseptic properties. On the latter Schilling relied in his novel kind of treatment of whooping-cough, which he tried in sixty-two different cases with children from ten weeks up to twelve years of age. As inhalation apparatus he uses a steam spray, the boiler of which is charged with one tablespoonful of water to which twice as many minims of purest chloroform are added as the child counts years. If after eight days' inhaling there is no marked improvement the dose is increased to twice as many drops as the child counts years. The glass bottle of the spray is filled with plain water, no chloroform is added to this. As chloroform is dissolved in water only in the proportion of 1 to 250 there is a surplus of chloroform at the bottom of the boiler, which, on heating, is evaporated, partly even before the water is boiling. This is the reason why inhalation ought to be commenced before the boiling point is reached. Each time the inhalation is continued until all water has evaporated, and the inhalation is repeated four times a day. With such treatment the further progress of the disease is arrested after a few days, and in the course of a week a marked improvement usually takes place—the paroxysms becoming less frequent and less violent. In half of the cases the paroxysms disappear entirely after fourteen days, and only slight bronchitic symptoms remain. This final stage of bronchitic catarrh was reached after one week in four cases, after two weeks in twenty-eight cases, after three weeks in twenty-one cases, and after four weeks in eight cases. Therefore the results of this new treatment may be designated as very good. Inhalations of carbolic acid, formerly used by the author, did not give such results. Antipyrin sometimes acted very promptly; in other cases, however, it failed entirely. Similar questionable success was obtained by the much-praised nasal insufflations of benzoate of sodium. The author tried several times to give pure chloroform as inhalation. Applied in this way the chloroform acted very beneficially.

Chloroform water, ♏vii. ad. ʒiii., given internally, had no effect whatever neither in whooping-cough nor in any other illness.

A case of serious cocain poisoning in a child ending in complete recovery is reported by Dr. J. Stein, of Saaz.

He applied to a girl of two and a quarter years a suppository, consisting of oil of cocoa and three grains of cocain. One hour after application the child woke, became excited, threw about her arms, and talked constantly. The doctor saw the girl two and a half hours after application of the suppository, and found the child in a state of great excitation; movements were made with the hands similar to the involuntary movements observed in chorea. Respiration was increased, radial artery showed high tension, pupils were slightly dilated. The treatment consisted simply of cold bandages applied to the head. Four hours after application the child became quiet, and on the following day it was all right again.

Tannic acid is now being highly recommended for the treatment of burns and scalds. Limbs where the whole epidermis was removed healed rapidly under this treatment, which consists of the following: A sponge is soaked in a five per cent. solution of tannic acid and pressed out over the granulating surfaces. A soft lanolin ointment, with or without admixture of tannic acid, is thereupon applied. Pain disappears, and healing is rapidly effected. On changing the ointment dressing the sponging with tannic acid is repeated. The method is said to be specially suitable when large surfaces of the body are affected.

Professor Mosetig-Moorhof recommends, in the *Wien. Med. Presse*, the following emulsion for chronic cystitis:

℞ Iodoform ..... ʒ ij.
Glycerin. ..... ʒ ijs.
Aq. dest. ..... ʒ iii.
Gum tragacanth ..... gr. iv.

Half an ounce of this emulsion is suspended in a pint of warm water. This is injected into the bladder, which has previously been washed out with plain warm water. The process is repeated every three days. After three or four applications the cystitis is said to be cured, or at least very much improved.

Iodoform oil is at present used for treating tuberculous affections of joints and bones. This oil is injected into the affections of joints and bones. This oil is injected into the tissues just like a solution of iodoform in ether, which, however, has been given up for reason of its extreme painfulness, and of its occasionally causing gangrene. A 20 per cent. mixture of iodoform with olive oil, prepared fresh for each injection, is used. Part of the iodoform will decompose if this mixture is kept for some time, such decomposition being easily found out, as it causes a reddish-brown coloration. 30-45 m. of this mixture are injected every eight days on different places, by the aid of a Pravaz syringe. Previous careful disinfection of the skin is advisable.

Reviews.

Congestive Neurasthenia, or Insomnia and Nerve Depression. By E. G. Whittle, M.D. Lond., F.R.C.S. Eng. London: H. K. Lewis. 1889.

When the history of medicine comes to be written the present will surely deserve to be described as the age of infallible cures. The elixir of life has certainly not yet been prepared, but have we not good grounds for supposing that we have most of its ingredients at hand in our laboratories, medicine chests, and other armamentaria? The minor ailments—the thorns in the flesh—that remind the strongest of us that we are but mortal, are made to vanish by the ingestion of a homœopathic globule, delicately "sugared o'er" so as not to offend the most fastidious palate: diseases more formidable and intractable yield to the gentle touch and exhortation of the hypnotiser; the inexhaustible derivatives of coal-tar seem to provide a remedy for every symptom that human pathology can produce. No longer

> "Diseases desperate grown,
> By desperate appliance are relieved;"

they yield to the mildest, the blandest of remedies. But yet we are not happy; our hospitals are still full and overflowing; sickness still brings grief and poverty into bright and prosperous homes; still the young and hopeful are stricken down in the midst of their activity. The elixir of life is not complete; an *adjuvans* or *corrigens* is still wanting, and many are searching for it, with more or less success. Dr. Whittle has bestowed no small attention on a form of disorder that most of us have probably been called upon to treat, but for which, unlike most of us, he thinks he has found a remedy which acts *cito tute et jocunde*. The disease is a form of hypochondriasis with insomnia, characterised by general plethora, throbbing carotids, and a feeling of heat about the head—"congestal neurasthenia;" the remedy is leeching. For the full description of the complaint and its cure we must refer our readers to the book itself; of the value of the treatment advocated, we cannot speak from personal experience, and therefore hold our peace. We will say of the book, that it is written in a style of the most refreshing optimism, that it is very agreeable reading, and that the printing and the paper are everything that can be desired. It is pleasant to know that one of the author's patients "came lightly and gaily up to him in the morning with a laughing welcome, and the declaration that he had had a good night, and was himself again." But we may be pardoned for questioning the dogmatic assertion of the author when he declares, "Bleeding, I have no hesitation in saying, was the only means by which his cure could have been attained." We confess we have some deeply-rooted prejudices against the practice of blood-letting, except in cases where life is threatened by some form of toxæmia, prejudices which are not lessened by Dr. Whittle's silence with regard to its physiological action. T. R. Bradshaw, M.D.

The Purchase of Women: the Great Economic Blunder. By Dr. Elizabeth Blackwell. London. 8vo. pp. 42.

Dr. Elizabeth Blackwell is a bold woman! albeit, in the very best sense of the word—a courageous out-spoken lady! With the confidence of conviction, she lays bare the enormity—moral and social—of fornication, or trade in women, and exposes the real meaning of those relations of the sexes which are commonly known under the term "ordinary immorality." Thus, Dr. Blackwell proceeds to reason, "Many persons who would shrink from the guilt of being the author of a first seduction, or of running the risks of legal prosecution, will not hesitate to engage in 'ordinary immorality'—that is, they will without scruple purchase the temporary use of a consenting woman for a little money; they will justify the transaction by the plea that what women will sell, men may buy. They may even consider that they show a little contemptuous kindness to women in such buying, as industrial conditions press more heavily on women. Women also accept false theories of human nature, that blaspheme their Creator, and degrade the exalted rank of motherhood by welcoming profligates, and sacrificing their daughters in mercenary marriages."

We have used the expression "trade in women"; we may here explain its employment as used by the authoress. "If temporary bargains are made, either expressly or tacitly,

by which one party gives money to another for a certain return, such a bargain is trade. If few such bargains are made it is a limited trade, if many it is an extensive trade; but in each case the transactions are equally trade, and are necessarily subject to the laws which govern trade. If, therefore, women are made the subjects of temporary purchase, they become the subjects of trade. Now trade is always directed by the rules and customs prevailing at the time, and the economic aspect requires to be studied, for the laws which govern trade are not fanciful theories, but very real practical facts which lie at the foundation of our social institutions, and silently mould our everyday life." These data are applied by Dr. Blackwell to the exposition of problems in political economy, and are applied to the question of ordinary immorality, equally with their relation to co-operation in the production and distribution of wealth generally. Dr. Blackwell very forcibly observes: "It is necessary to realise the overwhelming and illegitimate power of money in the present day if the condition of any trade is to be justly judged, and the responsibilities for the evils of a vicious trade rightly apportioned. In the terrible trade which converts the human body into a marketable commodity, it is no figure of speech, but a very weighty fact that vicious men are the capitalists. The responsibility of the position must be recognised."

Dr. Blackwell points out the difficulties which surround honest industry, and press with increasing force upon women's labour, compelling "a moral heroism to resist the special temptation which crowds upon them. . . . The contrast between the ease with which the wages of sin may be gained, and the laborious, even crushing methods of honest industry becomes an ever present and burning temptation to all working women" (p. 29). The various circumstances under which temptation to sin is forced upon the insufficiently remunerated working woman, are strongly, but truthfully, put by Dr. Elizabeth Blackwell, while the guilt of this transgression of moral laws is vividly brought home to men. "There cannot be," adds the authoress, "one moral law for human beings which is at the same time of unequal application to them. . . . Divine law admits of no exception; it cannot contradict itself. It is equally binding on the weakest as on the strongest, on the man as on the woman, or it is not law. If men are so constituted that they can grow to the full stature of manhood without obedience to the law of purity, then the moral law of purity does not exist for them, because it is not a necessary method of growth to their highest human development; their nature is not adapted by the creator to the moral laws, its influence over them is weakened, its absolute authority destroyed" (p. 41). We have thus placed before our readers the solemn consideration of a most solemn subject, as nearly as possible in the author's own words, conscious that we could not add force thereto by our own more feeble comments, and trusting very sincerely that the "purchase of women" may fall into hands of those who will read, mark, learn, and inwardly digest it.

W. B. Kesteven, M.D.

Short Notices.

Four Reprints. By Adolf Bronner, M.D. London, 1889.

1. *Antiseptic Ophthalmic and Aural Surgery* (reprinted from *British Medical Journal*, February, 1889).—"In speaking of antiseptic surgery," Dr. Brönner observes, "we mean the method of operating or of treating a wound: firstly, so that we may prevent the entrance of micro-organisms into the wound (aseptic surgery); and, secondly, that we may destroy or arrest the development of the micro-organisms which may be in or near the wound (antiseptic surgery)." To illustrate his ideas of antiseptic ophthalmic surgery, Dr. Brönner refers to the antiseptic precautions used at the Bradford Eye and Ear Hospital, under which, out of over 900 major operations, in two years, there was not a single case of suppuration. In aural surgery, it is, of course, "quite impossible," adds Dr. Brönner, "to perform an aseptic operation, as the wound is always in communication with the ear or throat." Antiseptic precautions, however, have been taken to prevent the development of the micro-organisms in or near the wounds.

2. *Local Treatment of Non-Suppurative Diseases of the Middle Ear* (reprinted from the Provincial Medical Journal, June, 1889).—The author introduces his observations by the following remarks: "The greatest triumph of otology in late years has been the fact that we have, at least, recognised how very intimate the relations are between the diseases of the nose and those of the middle ear." This passage is the key-note of the essay. Obstructions of the nares, such as may be caused by swelling of the mucous membrane, or by polypi, are among the principal morbid conditions that Dr. Brönner treats of in this place. We note, however, the following observations: Roughly speaking, we can divide the non-suppurative diseases of the middle ear into three classes—acute catarrh, chronic catarrh, and dry catarrh or sclerosis. The author points out the difficulty of distinguishing between diseases of the middle or internal ear, and points to the uses of the tuning-fork in the diagnosis of these affections. The author's observations under this head are purely practical, and will prove useful. The directions for the treatment of catarrhal disease will also be found of service.

3. *Pseudo-Hay Fever* (reprinted from the *Lancet*, July, 1889).—The affection here referred to, consists in nervous or vaso-motor rhinitis, and is, together with its treatment, fully treated of by Dr. Brönner, and illustrated by record of cases. "Chronic hypertrophic rhinitis," the author observes, "is a very common disease. In bad cases it renders the life of the patient perfectly miserable, often compelling him to give up his occupation and leave his home in search of a better climate. . . . It also frequently brings on or keeps up inflammation of the middle ear." In all cases of chronic disease of the middle ear, the author, therefore, urges the examination of the Eustachian orifices.

4. *On the Diseases of, and the Operations on, the Mastoid Process* (reprinted from the *Medical Press and Circular*, July, 1889).—The affections of the mastoid, which are treated of in these pamphlets, "roughly speaking," periostitis; catarrh and empyema of the mastoid cells; sclerosis; caries and neurosis. The remarks upon these lesions of the ear, formed the subject of a paper read by the author before the Yorkshire Branch of the British Medical Association at Bradford, in March of the present year. Symptoms and treatment are considered as fully as the limit of a short paper admitted. Among the principal facts to be noticed, as stated by Dr. Brönner, are: extensive and dangerous changes may be going on in the mastoid process without any well-marked symptoms; these affections frequently give rise to intra-cranial inflammation, pyæmia, general or local inflammation; in all chronic cases the periosteum and osseous tissue of the mastoid process ought to be carefully examined.

W. B. Kesteven, M.D.

The Provincial Medical Journal,

DECEMBER, 1889.

One of the most important advances in modern surgery is the operative surgery of the brain; and this, no doubt, is due in the first place to the researches on cerebral localisation by Ferrier, Yeo, Hitzig, and others; and in the second, to the possibility of opening the skull, and interfering with the brain and its membranes, adopting the principles laid down by Lister. Whether these principles are dependent upon the prevention of air-germ development, or are essentially those of absolute cleanliness and thorough drainage, need not be here discussed; but there is no doubt that trephining and brain surgery have been very haphazard, though often startlingly successful, from the days of Percival Pott to rather recent times. But in order to enable the surgeon to find the spot which the physician indicates is the seat of disease, we have been groping after useful landmarks to guide him in operating. The difficulty of securing these is obvious, for the scalp possesses few that are stable, and the sutures of the skull are difficult to identify through the scalp. And allowing that some fixed points can be secured, we have then to find how to determine the proportionate distances from those of certain important brain areas and cardinal points. The methods hitherto given have been unsatisfactory, involving, as they do, intricate surface lines and measurements by inches and fractions of an inch from certain points; and we are glad to meet with an important contribution to the subject by two scientific English surgeons at the meeting of the Anatomical Society, and reprinted in the *Journal of Anatomy* (W. Anderson and G. H. Makins, "Experiments in Cranio-Cerebral Topography").

Their object was twofold: (1) To map out the latitude and longitude of the cranium by means of a few simple lines running between points that are capable of precise definition on the scalp—these lines and their relation to the brain surface not to be materially affected by variations in form and dimension of the skull. (2) To register the relations of these lines to the principal fissures, etc.; to learn the normal range of variation in the position of these fissures, etc.; and to establish a series of surface points which shall indicate the mean position of certain parts of these. As a first result of these inquiries, certain "guiding lines" were devised, and these are the ones from which the proportionate measurements have to be taken on the scalp, and must therefore be taken careful notice of. The first is called the mesial, or "sagittal line," and extends from the glabella to the external occipital protuberance. The middle point of this is called the mid-sagittal point, and is of much importance. The second line is nearly parallel in direction with the face, and this they call the "frontal line." This runs from the mid-sagittal point to the depression just in front of the tragus, at the level of the upper border of the external auditory meatus. The third, or "oblique line," runs from the outer angle of the orbit (external angular process) to the junction of the middle and lower thirds of the frontal line, and is prolonged backwards about an inch and a half. The authors seem now to have adopted the term "squamosal," instead of oblique. Carrying these three lines constantly before us, we are led to notice that the cranial sutures, ridges, and eminences, are related to them and to the subjacent convolutions with a good deal of uncertainty in different subjects, and even differing considerably on the two sides of the same subject. All that is possible for an anatomist is to indicate upon the scalp an easily defined spot which shall hold a central position with regard to all the probable variations of the particular brain locality studied. Taking now the fissure of Rolando, it is found that the safest plan for trephining so as to reach the upper extremity of the fissure will be to fix the central point of the trephine three-eighths of an inch behind the mid-sagittal point. For the lower end of the sulcus, perforate in the squamosal line three-eighths of an inch in front of the "squamosal point," or crossing point of the frontal and oblique lines. The commencement of the fissure of Sylvius may be found on the squamosal or oblique line, about an inch and a quarter behind the external angular process of the orbit, or five twelfths of the distance from the angular point to the squamosal point. The bifurcation of the fissure is along the same line, but about an inch and a half to two inches behind the external angular process, or seven-twelfths of the distance from the angular point to the squamosal point. The course of the limbs of the fissure is fairly definite, but the termination very difficult to define. However, the parietal eminence roughly indicates its position.

These are the chief fissures studied in this inquiry, and the results will be of practical value to surgeons in operations on the brain. They seem based on a scientific system, and to be more workable and trustworthy than any plan we have met. The topographical chart which accompanies the paper is just what is wanted by the surgeon, and might be made more complete by indicating the subjacent convolutions and fissures in coloured ink. In the same way we would suggest marking the position of the main sinuses and meningeal arteries, and then a still more useful plate could be produced for the guidance of the surgeon or student. Mr. Anderson and Mr. Makins are to be congratulated on the results of their inquiry, which, however, is capable of further extension.

They claim that the standard points selected by them are few, and liable only to a very small degree of variation in different subjects: that the "frontal" and "oblique" lines by which the course of the fissures of Rolando and Sylvius are mainly indicated, undergo changes of length and direction in association with variations in the size and form of the skull, and are therefore applicable for heads of all sizes and shapes, adult or juvenile; and that the test-points in the course of the different fissures are measured as far as possible in fractions of the length of the lines rather than in inches and centimétres, in order to secure a similar adaptation to crania of all dimensions. This rule is departed from

only in the case of the two extremities of the fissure of Rolando, where the necessary adaptive changes are sufficiently secured by the shifting of the frontal line. In a paper by the authors (*Lancet*, July 13th, 1889) will be found a long list of the different methods given by other observers for finding certain brain points by measurements from more or less distinguishable surface markings and processes, and one of the figures given shows the subjacent convolutions as we have suggested. A paper by Ludwig August Muller, of Frauenfeld, has just appeared on the same subject, and his method of mapping out the skull cap involves drawing a horizontal line from above the orbits, and a sagittal line. These are each divided into one hundred parts, and the corresponding tenths again united by cross lines. The seat of various brain areas is calculated from these lines. The adoption of percentages instead of fractions is an advantage, and has already been made use of by Hare and others; but the cross lines appear to us not definite enough, and the relation of the lines to the skull rather than to the surface is at first sight an objection. This, however, is hardly the case, for the points chosen are such as can be readily felt.

The *Medical Register* was compiled with the object of being able to distinguish qualified from unqualified practitioners—entry to it, entitling the practitioner to certain rights; as for instance, the power of recovering, in the courts, law fees. The *Register* was a necessary accompaniment to the new medical act, but it is all essential that this *Register* should be kept up to a true standard, and that we should have the correct names and addresses in it of all who are entitled to registration. We publish in this issue a very important announcement from the Registrar, and we would direct the attention of our readers to it for their own protection, and also for the purpose of assisting the Registrar in keeping the volume accurate. Many practitioners have, on occasions when registration would be valuable, found, owing to neglect or unacquaintance with the ordinance, that their names were not on the *Register*, and consequently they were deprived of certain privileges. We remember when the contest for the Medical Council was proceeding we were very much struck by the number of medical men who were not on the *Register*. They had changed their addresses in the town in which they were living, or changed their locality, the consequence being that their names failed to appear. The process of restoration to the *Register* involves some time. Certain forms have to be filled up in proof of identification, correspondence has to be entered on, and a considerable amount of extra labour is imposed on the officials of the medical council office. All this can be easily saved by attending to the acquirements as set forth by the Registrar. Many may think that there is no advantage to be derived from having a place in this official list, as unqualified pretenders are allowed to practise with impunity, and quacks and others practise under the eye of the medical council. It is true that the law is imperfect, but it does not affect the question. The unregistered practitioner cannot recover any fee or honorarium in a court of justice, unless his name appears on the *Register*. As a copy of this official guide to the profession is furnished to the law officers of the crown, this advantage alone should be secured. Again, in the filling up of all appointments in the public services, the *Register* is taken as the guide, so that here we have another reason why practitioners should conform to the law. Each year the Registrar publishes an appeal to the profession to comply with the requirements of the medical acts. One letter would suffice to notify any change of address, and we are not asking too much in expecting the profession to comply with this reasonable demand.

This question, as the French say, is again "in the air;" in fact, there never has been a time when it has been out of it, for if we look back at the files of the old journals for fifty years we find that the abuse of medical charity appears to be ever to the fore. The literature of the subject is enormous, and by this time it ought to have been thrashed out; but never before has it received such general attention. Individual writers have expressed their opinions, and we have had conferences, in which a number of earnest reformers have tackled the subject; but now it has excited the attention of the largest medical association in the world. The British Medical Association has referred the matter to the branches—*re* the resolutions of Dr. Rentoul, and we sincerely hope that some remedy will be devised which will rehabilitate the profession, and establish some *modus vivendi*. The profession may be divided into three classes: (1) the general hospital surgeons; (2) the special hospital surgeons; (3) the general practitioners. The question has to be considered from three different points of view, because the interests at stake are rather diverted. The most numerous class are the general practitioners who are not attached to hospitals; but their strength is not proportionate to their numbers, and their views and their interests are not likely to be considered when they come in contact with those of the other classes. Oligarchies have always succeeded in protecting their own interest, for there is an amount of cohesion amongst them which is a most important factor in the preservation of monopolies. The hospital surgeons build up their reputations by the charitable work they perform, and it is necessary for them to have a large number of patients from whom to select suitable cases for operation or treatment. The out-patient department is their hunting ground, and they look with disfavour on any attempt made to cut down this department. This is doubly true of the special hospital surgeon, so that here at once we have to face a very great difficulty—viz., to reconcile the conflicting interests of the hospital surgeon and the general practitioner. It is clearly necessary that we should have hospitals, but the question narrows itself down as to how the patients are to be recruited.

The present system, we have no hesitation in saying, is injurious to the great bulk of medical men. And we also

believe that it causes a great waste of energy on the part of the hospital surgeon, and there should be no difficulty in devising a scheme which would work advantageously for all sections of the profession. We would absolutely insist upon the abolition of the out-door visiting of all infirmary patients; and as regards the out-patient departments, there is but one opinion, that half the number might be cut off with advantage to all interested, patient as well as medical attendant. Dr. Rentoul's scheme is, we believe, unworkable, though we are in thorough accord with him in the spirit and object of his work, and the profession is indebted for the energetic and persevering manner in which he has set about his reformatory crusade. He has succeeded as only earnest men can succeed in bringing medical opinion to bear on the subject, and we have no doubt that when the opinions of the different branches are collected and collated, we shall have some practical conclusions which will bear good fruit in the future. If the British Medical Association be the means of diminishing the abuse of medical charity, it will strengthen its hold upon those who are its largest constituents, for it is upon this class that the pressure mostly falls. The starvation of the hospitals, caused by the multiplication of these institutions, must also be taken into consideration. It is not always beneficent to have too many hospitals. The first step to pauperisation is but too frequently taken by means of an out-patient recommendation. Independence is sacrificed; self-respect is weakened; and when the latter has gone, the downward progress is easy.

The contributions of the working man have not been an unmixed blessing, because, unfortunately, the donors of a few pence per annum, which in the aggregate amounts to a large sum, consider that they have a claim upon the charity they have contributed to, and they expect something in return for their donations. We publish in this number a letter from Dr. Rentoul, giving statistics of the number who apply for free medical advice, and it is simply appalling to find that we have such a host of indigent persons in England, apart altogether from the true pauper class. We published a few years back a number of essays on the causes of low fees in the profession, and these papers might be re-read with profit by those who are interested in this social question, for the writer's thoughtful and practical view thoroughly quartered the field, and accounted for many of the grievances of the profession. All complained of the abuse of medical charity. Various remedies were suggested, but there is one factor to be taken into account—viz., the want of union in the profession; and until this is cured no scheme will have any chance of success. The British Medical Association may be able to overcome this difficulty and bring about union, but without this union no scheme will succeed.

We have on several occasions during the past ten years written on the subject of the accommodation for the insane, and we have pointed out some of the evils of the existing system. For years we have been content with collecting together, into monster institutions, the demented, the imbecile, the epileptic, the maniacal, etc., and placing them under the superintendence of a medical man, to whom also is intrusted the domestic management of the institution necessary for the housing of the large number of lunatics in our counties. Some of our asylums have 1000 to 1400 patients under one medical superintendent, who is also general manager. It is true that there are assistant medical officers, but even with this assistance the medical direction is imperfect. This is one aspect of the subject. Another arises from the expensive manner in which these asylums are fitted up. Yorkshire, in its West Riding, has now three asylums: Wakefield, Wadsley, and Menston; the accommodation in each asylum being for 1400 patients. The style in which these asylums are built, and the surroundings, are simply extravagant; and we do not wonder that they are filled, or that friends of patients should be only too anxious to place their weak-minded relations in places which promise so much. The zeal of the medical superintendents is so well known that anything we have to say cannot detract from their merits; they are the creatures of circumstances.

The asylum by its name condemns the system; it means that Society is relieved of the presence of its lunatics, and that they are protected—finding a haven of rest and comfort, so that the curable and incurable cases find in the same establishment both treatment and protection. Some years ago the Halifax guardians, not being allowed by the Local Government Board to extend their buildings, and wanting accommodation for their ordinary sick, sent all their chronic incurable cases, to the number of 140, to Wadsley, and we believe a number of them are there still. The change was effected without loss to the guardians, as the grant of four shillings per head was received by the exchange. But this was simply turning Wadsley into a boarding-house, and crowding the establishment with a dead weight—increasing the responsibility of the medical superintendent without bringing into play the exercise of his higher capacity—viz., the application of his therapeutical knowledge to the cure of insanity. Other unions, no doubt, followed the same plan, so that we do not wonder at the rapid filling of our Yorkshire asylums. The Halifax patients were removed from very excellent wards, quite equal to the accommodation in general hospitals, but of course not to be compared in any way with the luxury of the modern asylum; so that these patients gained by the improvement in their surroundings; but they were not one bit better off as regards diet. They had gingerbread at Halifax and gingerbread at Wadsley, with this difference, that at Wadsley the gingerbread was gilded.

We trust that some steps will be taken to reconstitute the old system; to leave the imbeciles and demented in proper care in their own parishes, or in imbecile wards in connection with union infirmaries, taking precautions that they shall be treated as well as they have been at the asylums. This would relieve the asylums, and give the medical

officers more time to devote to cure and therapeutics. We in this connection welcome the attempt now being made in London to institute a hospital for the treatment of brain diseases. It is supported by practical medical men who know the imperfections of the present system, and judging by the support the proposal has received we shall probably have a hospital of this kind opened under the protection of the London County Council. It may be considered a reproach to our present superintendents. It may be said, have we not already hospitals of this kind? We have indicated already the objections to the old system. In due time the provincial county councils will move and convert the present *asylums* into hospitals, and the superintendents will have every reason to be content with the change.

Annotations.

"Forsan et hæc olim meminisse juvabit."

"THE PROVINCIAL MEDICAL JOURNAL."

During the year 1889 The Provincial Medical Journal was permanently enlarged to sixty-four pages, without any increase in price; and we are assured by numerous correspondents that with the increasing quantity there has been a corresponding increase of the quality of the literary matter. The journal is now established, and our only desire is to make it more useful; and as the publishers have most liberally responded to all our suggestions, we shall be able during the coming year to develop parts in which we have been weak. For instance, we have not given as much space to therapeutics as it deserves. We shall try to strengthen this section. The quality of the articles will be sustained during the year.

THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.

Lord Kyllachy has awarded to the pursuers in the action against the Executive Committee of the Edinburgh School for Women the sum of £50 each, as a solatium for their expulsion from the school. His lordship said that Miss Jex Blake had overrated her position, and had endeavoured to exact too much from the young ladies who attended.

HORSE EXTRACTS *VERSUS* BEEF.

The scare about the use of dead horses and donkeys for the manufacture of meat extracts will for a time injure manufacturers of genuine meat extract, but the scare will only last for a time. Sausages are supposed to be made of dogs and cats: the sausage preserves its position, and is used as freely as ever. There are two points to be cleared up: (1) What becomes of the old worn-out horses that are sent abroad? (2) If used for meat extracts, is the extract injurious or beneficial? It is evidently a fraud to sell fluid or jelly under the name of beef, which is really made from the flesh of other animals; but apart from the sentiment and substitution, we should like to know the value of horse extract.

MARASMUS, AND OTHER VAGUE CAUSES OF DISEASE.

There is good work to be done in the clearing up of the nature of marasmus, and of the wasting diseases of children. Marasmus by itself is a general term which may mean anything. As it is very frequently used on the registration certificates of death, it must in a very considerable measure influence the Registrar's statistics.

THE MEDICAL DEFENCE UNION.

A metropolitan branch of the Medical Union has just been established in London, and the following members were chosen on the executive: Mr. Ernest Hart, Dr. Danford Thomas, Dr. Corner, Mr. Telce, Mr. Goodsall, Mr. Masters, Mr. Roche Lynch, Mr. Noble Smith, Dr. Fancourt-Barnes, Dr. Verdon, Dr. de Havelland Hall, Dr. Prior Purvis. The meeting took place at the offices of the British Medical Association, and Mr. Lawson Tait presided over a very representative gathering of metropolitans. It is, we believe, a well-known fact that large cities owe their vigour to the recruitment which takes place in the country, and this is thoroughly true in medical life. We provincials gave to London the finest medical organisation in the world, the British Medical Association; and we are now presenting her with another sound constitution in the shape of the Medical Defence Union, which provincial vigour has re-created out of the skeleton which came from the metropolis.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.

The autumn general meeting of this Association took place at 11, Chandos-street, London, W., on Thursday, November 7th, 1889. Dr. Richard Fegan (Blackheath), President, occupied the chair, and among the other members present were Sir Thomas Crawford, K.C.B., Drs. Macnaughton Jones, Mapother, Gaven, C. Wells, J. S. Swain, James Donelan, Douglas Lithgow, W. Beech Johnston, J. J. Lough, F. J. Waring (Brighton), Richard Heath (St. Leonards), J. O'B. Williams, R.N., James Stewart, and P. S. Abraham. A presentation, consisting of an illuminated address and a handsome clock, was made to Dr. James Stewart, by Dr. Macnaughton Jones, on behalf of the members of the Council, in recognition of his labours as one of the hon. secretaries of the Association for the last five years, and as a mark of their personal regard. An alteration of rule vii., by which the Council would be empowered to elect an additional hon. secretary, was proposed and carried. On the proposition of Dr. Stewart, a vote of sympathy was passed to Dr. John Eadie, of Yeovil, a member of the Association, on the occasion of the false charge and attempt at "black-mailing" to which he has been recently subjected. A vote of congratulation to Sir John Thomas Banks, K.C.B., on the motion of Dr. Abraham, seconded by Sir Thomas Crawford, on the occasion of the distinguished honour of which he has lately been the recipient, was adopted with acclamation. In the evening fifty-four of the members and their friends dined together at the Holborn Restaurant.

MEETING OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The election of Mr. Jonathan Hutchinson as president of the Royal College of Surgeons of England was in every respect a fortunate one, as he possesses the confidence of the profession, and is in touch with its modern spirit. It is wise at times to bend, and this may be done with dignity, without yielding one iota of principle. Mr. Hutchinson by his address to the members, though he did not disarm criticism, or weaken the claims of the members to proper representation, yet conciliated and poured oil on the troubled waters. There is a possibility, with such a president, of effecting a settlement of the long-standing dispute between the Council and outside members.

THE COMPULSORY NOTIFICATION ACT AT LYTHAM.

At a meeting of the Lytham Commissioners, Dr. Fisher put in a clear and forcible way the objection to notification, applied to such a seaside and health resort as Lytham, and knowing Lytham we are forced to his conclusion, that he was acting in the best interest of the town in opposing the application of this Act. For Liverpool, Manchester, Leeds, and other large towns, notification may be advantageous, but the conditions at Lytham are not identical, and the arguments deduced from the general advantages secured in large towns are not applicable.

Dr. Fisher said that he had carefully examined the act, the main points of which were to be found in clauses A and B. Clause A provided that "The head of the family to which such inmate (in the Act referred to as the patient) belongs, and in his default the nearest relatives of the patient present in the building or being in attendance on the patient, and in default of such relatives every person in charge of or in attendance on the patient, and in default of any such person the occupier of the building shall, as soon as he becomes aware that the patient is suffering from an infectious disease to which the Act applies, send notice thereof to the medical officer of health of the district." Clause B said: Every medical practitioner attending on or called in to visit the patient shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which the Act applies, send to the medical officer of health for the district a certificate stating the name of the patient, the situation of the building, and the infectious disease from which, in the opinion of such medical practitioner, the patient is suffering. Proceeding Dr. Fisher said: "In my opinion nothing whatever would be gained by its adoption, inasmuch as 'notification' has always been given voluntarily and gratuitously, and it appears to me to be quite unnecesssry so far as Lytham is concerned to make it compulsory, and in this opinion I find I am supported by the other doctors, the medical officer excepted. Taking this view of the question, there need not be any fear that the public will be dissatisfied with the decision of this Board, should it decline to give sanction to its adoption. Indeed, can it be supposed that Mr. Ritchie intended that the Act should apply to districts like Lytham, where for so many years voluntary notification had been in existence, and so far as can be judged with satisfactory results. If he had so intended he would not have made it an optional measure for all urban and rural districts (London excepted). It has been urged as a necessity for adopting the Act for Lytham that one of the medical practitioners resident in the town has refused to give the required notification, but I am distlnctly informed by the doctor in question that such is not the case, and that he has not had anything to notify. The adoption of the compulsory Act might easily be the cause of mischief, *as it is not at all unlikely that some persons might be unwilling to call in medical aid, and they might try to hide anything of an infectious character, and plead ignorance rather than incur the risk of publicity. Such instances I am told frequently occur in other districts where the Act is in force. And the Act, as I read it, does not compel persons to call in a doctor.* Further, it would be detrimental to the interest of the town (as a health resort) to give unnecessary publicity to every case of infectious disease which might occur. I can truly say that everything which the Act requires in the way of precautionary measures is in my opinion quite as effectually carried out under the present system as it would be under the compulsory Act. If persons come here recovering from infectious diseases and inadvertently neglect to notify the fact, the adoption of the compulsory Act will not remedy the evil. I am able to speak without hesitation of the care and attention which lodging-house keepers in general give to this very important subject, and also of their refusal to admit into their houses any visitors who have, to their knowledge, recently suffered from infectious complaints, without first consulting their medical adviser. These are some of the prominent reasons which lead me to suggest that, for the present, at any rate the proposed compulsory notification Act, should not be put in force in Lytham."

The Act is imperfect. It is framed in the interest of the public, but one clause is wanted, viz., "that in every case of disease included in this Act, a registered medical practitioner should be consulted." Primary notification to the practitioner would be an effective way of dealing with primary cases.

ASEPTICISM *VERSUS* ANTISEPTICISM.

We publish this month two very important papers, one by Professor Lister, detailing a new departure in the fabrics associated with his name; the other by Dr. Bantock, impugning the very ground on which Listerism stands. The paper by Professor Lister is worthy of perusal, though it is perhaps more interesting to the manufacturing chemists than to the practitioner. A new fabric of this kind means increased outlay for hospitals and for private practitioners, and a large sum of money has been spent already on vapourisers, carbolic gauze, carbolic lotions, carbolised tow, etc. We may presume that all these agents are now valueless. The fashion has changed. Salembroth gauze, etc., have had their brief day. Whether the new dressing will sustain its reputation is a matter of doubt; but whether or not the antiseptic dressing holds its ground, Lister will always have the credit and honour of being the introducer of a system which has for its basis cleanliness, and whether this is secured by cold water or chemical contrivance, the end in view is attained. It is a matter of old history now that the gravest operations can be performed, and the best results obtained by the use of plain water. It is also a matter of old history that results equal to those obtained by the most elaborate contrivances of the antiseptic system have been secured in midwifery practice by the use of cold water. We have in former articles given chapter and verse to this assertion. This means that cleanliness is all essential, and that the aseptic state may be brought about without chemical means. We have passed the stage of intolerance, and now to doubt Lister is not looked upon as the unpardonable sin. It is lamentable to think that in a science like medicine we should have a reign of dogmatism, and that blind, unreasoning faith should be demanded of members of a liberal profession.

"THE INVASION OF THE *MASSEUR*."

Under this heading, *The Medical Record*, New York, has a very pithy article, from which we make the following extract: "We must beg our readers to keep a close eye upon the *masseur*. He is bearing down upon unhinged humanity with a steady and relentless stride. He develops in the midst of us; he sails over from Germany and England to us; while, if there are any graduates of Heilgymnastik still left in Denmark, Sweden, or Norway, we should like to know it; for it has appeared to us, after some busy morning, that they have all called. Truly, the *masseur* is among us. He is a man of great resources. As his fraternity increases, he does not lose heart, or complain of competition, or seek protection from the State—he simply enlarges his field. In olden times the rubbing of a stiff knee with officinal linimentum saponis was the centre and circumference of massage. Soon, however, we learned how soothing was the emollient and theobromated hand upon the hyperæsthetic skin and diseased muscle. The *masseur* became firmly established as the resourceful prop of hysteria and unfailing staff of morbid locomotion. But then the sinewy and insidious hand began to gather adventitious aids, and seek new worlds to conquer. Having organised its movements into a company of Gallic polysyllables, so that its manœuvres of *tapotiment* and *pétrissage* and *effleurage* should not be mistaken for plain, every-day slap-slap, jab-jab, and thump-thump, it proceeded to attack all the several diseases and organs of the body. Adipose tissue in excess was made to disappear, while glandular tissue, if mammary, was rubbed to make it grow. Massage has now applied itself to diseases of the eye, and granular lids are, *quoad* the granulations, artistically rubbed off; it has invaded the mouth and throat, reducing hypertrophied tonsils, opening the Eustachean tubes, and curing catarrh and deafness."

BIRMINGHAM TO THE FRONT.

Birmingham is known to be a progressive town. Its practitioners have acquired some of the spirit, and they are now tackling with energy the abuse of medical charity. They have appointed a committee to devise some means by which this abuse may be remedied. A report has been issued, and a number of propositions boldly stated: "(*a*) That the original purpose of our medical charities has been widely departed from. (*b*) That as a result of this departure the demands made upon them are greater than they can adequately meet, and are increasing from year to year. (*c*) That a constantly increasing proportion of the community depends upon charitable medical relief in times of sickness, rather than on providence and self-help, and that this is unjust to the subscribing public, injurious to the recipients themselves, and an imposition upon the medical profession. (*d*) That in order to bring about a better state of things the voluntary hospital system needs to be re-organised, so that, on the one hand, it may work harmoniously with and supplement the Poor-law system; and on the other hand, it may encourage, and not hinder, as it now does, the development of provident institutions for the medical treatment of the industrial classes." Another meeting was held on November 30th. We are obliged to hold over the account of the proceedings.

THE BRITISH MEDICAL ASSOCIATION.

There are rumours that some of those who are dissatisfied with the British Medical Association management have resigned in a body, and we presume that in this way they are manifesting their displeasure at the way their complaints were received at the Leeds meeting. The effect on the Association of the resignation of 500 members, however honoured, must in the nature of events be *nil*, because it is too late in the day to expect a republican institution like the British Medical Association to pay any regard to explosions of this nature. The profession in American divided over the Congress. The men who thought they were leaders could not rule, so tried to ruin, the result being that the malcontents have ever since suffered themselves. We trust this object lesson from medical history will not be without its value.

THE TENTH INTERNANIONAL MEDICAL CONGRESS.

Professor Rudolph Virchow has been appointed president of the next International Medical Congress. The general rules and regulations of this Congress have been sent out by the general secretary, Dr. Lassar, of Berlin. These relate to the organisation of the Congress, and resemble the regulations that have always been issued regarding the meetings. (1) The Congress is to open on Monday, August 4th, 1890, at Berlin, and to close on Sunday, August 10th. (2) The Congress is to consist of regular, licensed (*approbirten*) physicians, who have enrolled themselves as members and obtained members' cards. Other learned men interested in the work of the Congress can become associate members. The cost of membership will be twenty marks. (3) The objects of the Congress are exclusively scientific. (4) The work of the Congress will be done in eighteen sections. (7) The general sessions will be devoted to (*a*) the measures regarding the general regulation of the Congress, and (*b*) addresses and communications of general interest. (8) Notices of papers to be read, and abstracts of them, must be sent to the Organisation Committee before July, 1890. (9) Written copies of the articles to be read must be sent to the secretary of the section before the conclusion of the session. (11) The official languages will be German, French, and English. (12) Communications must be limited to twenty minutes, and discussions to ten minutes. (13) The sessions will be regulated by generally received parliamentary rules. (14) Students of medicine, and others interested in the work of the sessions, can be admitted by securing invitations. (15) Communications, or questions regarding the work of the special sections, should be addressed to the president of the section. Other communications should be addressed to the general secretary, Dr. Lassar, Berlin, N.W., Karlstrasse 19.

New Remedies.

Casearia Esculenta.—This drug has been introduced to the notice of the medical profession by Dr. P. S. Mootooswamy, F.L.S. (Tangore), who believes it to be of considerable value in the treatment of chronic enlargement of the liver, also for hepatic obstruction and piles.

Botanical Characters.—*Casearia esculenta* is a large shrub or small tree, having alternate oblong leaves with entire margins and smooth surface, axillary, greenish, yellow apetalous flowers, which have the stamens and nectaries united at the base. It belongs to the natural order Samydaceæ, and is a native of the Circar Mountains, the Ghauts of Travancore, Varoosa-puthee, and other parts of the Tanjòre district.

Description.—The root is the part employed in medicine by the Hindus, and is regularly sold in the medical bazaars of the district. In the Tamil language it is called "kadalashingi" and "kadaloorangi," but in Telugu it is named "gundu-gunguru." Unfortunately, there is another drug bearing the same name of kadaloorangi, belonging to the Malvaceæ. It is bitter and astringent, and mucilaginous, and is the product of *Kydia calycina*.

The root of *Casearia esculenta* varies in size, the average being about an inch in diameter. Externally it is of a bright yellow colour, and the superficial layer easily exfoliates in pieces as thin as tissue paper. Internally the bark is reddish brown. The wood of the root is marked with concentric zones, varying in number according to the age of the tree, and is light brown in colour. When powdered in a mortar the broken pieces of bark adhere together by the fine long silky liber cells, and give the powder a peculiar cobweb-like appearance, which, with the bright yellow colour of the outer bark, enables it to be easily recognised. It would be interesting to know whether the ancient doctrine of signatures suggested the use of this yellowish root in liver diseases.

Chemistry.—The root has been analysed by Mr. David Hooper, who found it to contain 3 per cent. of neutral resins, partly soluble in spirits of wine, and soluble in ether; tannin about 10 per cent., giving a greenish colour with ferric salts, and resembling rhatania tannic acid in the composition of its lead salt, and in forming a soluble crystalline product when boiled with dilute acid; a cathartic acid, soluble in water, and agreeing in chemical and physiological tests with the cathartic acid of senna. The root also contains a little starch, and 4.8 per cent. of mineral matter.

Properties and Uses.—It is a gentle aperient, notwithstanding the tannin present, and is considered by some Vytians to be an alterative in skin diseases, especially in the disease bearing the Tamil name of "padurthamaray," which affects the lower part of the abdomen and extends around the back, and apparently has its origin in disturbance of the hepatic function. For this complaint the bark, ground with water, is applied locally. Dr. Mootooswamy has long know the root to act as a specific in diabetes when administered in powder or decoction, but it is especially as a valuable remedy for chronic enlargement of the liver, for hepatic obstruction, and for piles, that this new remedy is recommended.

Preparations and Doses.—The dose of the powdered root is two or three drachms, with one-quarter of its weight of sugar, twice a day. This is, however, rather a bulky dose, and the decoction would be generally preferred. This is made according to the following formula:

℞ Root bark of casearia ..... ℥ ij.
Cinnamon bark ..... ℥ ij.
Aniseed ..... ℥ ij.
Water ..... ℥ x.

To be boiled down to three ounces. Dose, an ounce and a half twice a day. The extract and syrup are now largely used in Bombay; the extract is made by exhausting the powdered root with water and evaporating to the consistence of soft extract, of which the dose is twenty grains. The syrup is made from the extract, twenty grains of the extract being contained in two drachms of the syrup, which is taken for a dose.

Periscope.

I.—GLEANINGS IN MEDICINE.

By W. B. Kesteven, M.D.

Thiol, a Rival of Ichthyol (*Medical Record*, New York, October 16th).—Ichthyol has found a rival in thiol, a new product of chemical synthesis, obtained by artificially sulphuretting unsaturated hydro-carbons, and charging these with 10 per cent. of sulphur (The Provincial Medical Journal). Chemical and therapeutical researches prove its exact identity with ichthyol. Thiol consists of a brown fluid of the consistency of syrup; it is completely soluble in water, is totally inodorous, and has therefore a decided advantage over ichthyol. There exists also a dry thiol, which has two and a half times the strength of fluid thiol, otherwise having the same properties as the latter. Thiol is used like ichthyol in the following diseases: Acne, acute and chronic rheumatic arthritis, other rheumatic affections, contusions, decubitus, eczema, erysipelas, neuralgia, ischia, leprosy, frost-bites, prurigo, pruritus, ulcus cruris, burns, and scalds. On the initiative of Schweninger, thiol was tried at the Charité Clinic of Berlin, and Dr. Reeps reports on these trials in a very favourable light, as does also Dr. Buzzi, whose opinion is based on an even more extended clinical experience. Dr. Reeps states that it may safely be concluded that thiol, externally applied in skin diseases, has positively the same effect as ichthyol. As their effect in these instances is identical, it may also be assumed that thiol will prove equally efficacious in other diseases where ichthyol has been employed. Reeps has taken internal doses up to two and a half grammes without discomfort or disturbance of the stomach; and he believes, therefore, that it is comparatively harmless. It has been asserted lately that this is not the case with ichthyol, but he ascribes the adverse physiological effects of ichthyol to its obnoxious taste and odour, and these are entirely eliminated in thiol. He does not consider there is any further doubt that thiol and ichthyol are two exactly identical substances, and that thiol will serve to replace ichthyol when the natural sources of the latter remedy become exhausted; even now the discovery may be recognised as a great boon, which makes us independent of nature's supply of this valuable remedy.

Reduction of Hernia by Coughing (*Annales d' Orthopédie*, 15th June, 1889).—At the Medical Society, Paris, Dr. Vandenabeele reported several cases in which he has succeeded in reducing hernia by availing himself of the patient's cough. He takes the hernial tumour in his hand, and requires the patient to cough. Thirteen cases were relieved in this manner, which Dr. Vandenabeele considers easier and more convenient than taxis. The cough dilates the inguinal ring by pressure of the gaseous contents of the intestines.

Notes on the Value of Hyoscine as a Sedative. By Walter S. Coleman, M.B., and James Taylor, M.D. (*Lancet*, October 12th, 1889).—The preparation used in the cases under notice was 1 in 500 of the hydrobromate of hyoscine in distilled water. This strength is a convenient one, five minims being equivalent to a dose of $\frac{1}{100}$th of a grain of the salt. [Care should be taken to obtain the hydrobromate of hyoscine from a reliable chemist. It is perhaps superfluous to say that it must not be confounded with hyoscyamine.] The cases in which it has been used are: (1) Mental excitement, with epileptiform convulsions. The injection of $\frac{1}{200}$ gr. at once quieted the patient; the dose, however, required to be increased to $\frac{1}{75}$ gr. No bad effects followed. (2) A case of tumour of the cerebellum, with maniacal excitement. The injection of $\frac{1}{75}$ gr, completely allayed the excitement and produced sleep. (3) General paralysis, with excitement. Cases 4, 5, 6, 7, 8, were epileptic, with mania. (9) Hysterical contraction of the arm, with violent excitement. In another instance, hyoscine was given as a substitute for morphia, that drug being inadmissible. Occasionally, unpleasant effects followed the use of the hyoscine—*e.g.*, hallucination, dimness of sight, excessive dryness of the mouth; but the drug was always found to be a certain, rapid, and effective sedative in cases of violence and excitement. In violent cases, $\frac{1}{100}$ gr. may be injected; if no effect is produced in half an hour, a second dose of $\frac{1}{200}$ may be given. In chronic cases, $\frac{1}{300}$ is a safe dose. When given by the mouth, the dose should be doubled.

New Hypnotics (*The Medical Record*, New York, October 16th).—At a meeting of the New York State Medical Association, September, 1889, Dr. William H. Flint reviewed the literature of the new hypnotics, and then gave conclusions based principally on his own experience with them. He had used sulphonal most, as being the most efficient or desirable of the new hypnotics. Its physiological action had not yet been thoroughly established. As a hypnotic it was valuable in some forms of insanity, neurasthenia, acute sthenic febrile diseases, opium

habit, gastric irritability, and some cases of anæmia. In gastralgia, gastritis, and some other conditions, it was contra-indicated. Toxic symptoms were not likely to manifest themselves unless the dose exceeded thirty grains in the adult. A large dose caused fatigue, depression, vertigo, tinnitus aurium, and œdema of the eyelids; it might cause even collapse. It was best administered by the mouth, with hot beverages or liquid food, an hour and a half before the desired action. He had not yet seen a sulphonal habit. There had been about 80 per cent. of successes in his cases. He had administered amylene hydrate in thirty-eight cases of insomnia, in various diseases, obtaining hypnotic effects in over 70 per cent. Its physiological effects were similar to those of alcohol. Its odour was disagreeable. It should not be given in gastric disease, because slightly irritating. He had recently used paraldehyde in thirty-five adult cases for insomnia, with successful results in 72 per cent. It was not irritating to the stomach. If too large doses were given a long time, a condition resembling chronic alcoholism might develop. It was best given in soft capsules. He spoke less favourably of the other hypnotics.

Antipyrin in Diabetes (*The Medical Record*, New York, October 16th).—Drs. Gley and Germain Sée report a number of cases of artificial glycosuria in dogs, in which the good effects of antipyrin in this affection were well illustrated. To a dog passing thirteen grammes of sugar a day, one gramme of antipyrin per diem was given for eight days, at the end of which time the amount of sugar had fallen to eleven grammes. At another time, the quantity of sugar was reduced by the same means from about ten to less than six grammes. Dr. Sée has also employed the drug in the treatment of glycosuria in the human subject with good results. Lépine and Porteret have shown that antipyrin has the effect of retarding the transformation of glycogen in the liver and muscles into glucose. M. Huchard has previously related several cases of polyuria and glycosuria, in which the exhibition of antipyrin was followed by good results. The latter author believes that this drug has a special utility in bulbar neuroses, among which he classes diabetes, polyuria, and exophthalmic goître.—*Revue Générale de Clinique et de Thérapeutique.*

The Value of Oxygen combined with Nitrogen Monoxide in the Treatment of Pulmonary and other Troubles. By Dr. E. C. Titus, M.D., of New York (*Medical Record*, New York, October 5th).—In the *Medical Record* of July 6th there appeared a very able article by Professor W. Gilman Thompson, showing a series of experiments with oxygen upon animals, and the conclusions arrived at as a result of those experiments. The conclusions were in the main such as I have demonstrated repeatedly by clinical experience. In the treatment of pulmonary complaints the tendency at the present time is toward local medication. This arises principally from the general acceptance of the germ theory, which teaches in the main that diseases originate from micro-organisms, and the belief that from this it must follow, as a necessity, that these micro-organisms must be destroyed or rendered harmless to organized tissues, either as a means of cure, or as a prophylaxis to such a disease. For these reasons attention has been directed more particularly to the study of means whereby antiseptics or germicides may be made to reach disease-germs in the lungs more directly and safely than has hitherto been known.

If tuberculosis depend upon the presence of infectious organisms in the tissues, then certainly the most rational mode of treatment in phthisis must include the administration of antiseptic agents. The most powerful antiseptic known to science is oxygen, for in an atmosphere of oxygen it is impossible for disease-germs to exist.

It has been found by clinical experience that oxygen is less irritating and more readily absorbed when combined with a certain equivalent of nitrogen monoxide. The proportions that I have found most valuable are two parts pure oxygen and one part nitrogen. In order to obtain good results, it is of the utmost importance that these gases should be absolutely pure. Pure oxygen I believe to be too powerful an oxidizing agent when used alone; especially when there exists inflammation in the air-passages. In cases of poisoning from hydrogen gas, however, it is better to use it undiluted. Nitrogen monoxide is valuable as a modifier of pure oxygen, and has a soothing effect upon the nervous system. It renders the oxygen with which it mingles more assimilable, and hence more promptly available in the general system. The discussion at the New York Academy of Medicine, following the reading of Professor Thompson's paper, was interesting in showing how generally this agent is now being used by the most advanced men in the profession. The method of administration is important. The patient should be instructed to expel as completely as possible the air from the lungs, and then inhale deeply, and after fully inflating the lungs it should be held as long as possible before being expired through the nose; there should be an interval of two minutes between each inhalation; this method is applicable to the treatment of phthisis and anæmia. In pneumonia it should be administered continuously from three to five minutes, and as frequently as the urgency of the case demands.

Athrepsia: a Wasting Disease of Childhood (*The Medical Record*, New York, October 16th).—In the *Revue mensuelle des Maladies de l' Enfance* Dr. Legournet has published an article on athrepsia, a *résumé* of which appears in the *Archives of Pediatrics*. Athrepsia is a morbid condition of infants which is characterised by disorders of digestion and nutrition, and results in defective or improper alimentation. The most striking symptom in the physiognomy of an athrepsic patient is emaciation. The child loses weight rapidly, and may lose as much as twenty or thirty grammes daily. Parrot divided the disease into several periods, and recognised several degrees in the gravity of the disease. It frequently begins at the end of the first week of life, the process of denutrition or innutrition being consecutive to that which existed at birth. If it is remembered that for the first few days after birth an infant normally loses thirty or forty grammes daily, even with a good nurse, this loss being rapidly made up in the succeeding period, it is easy to understand how great the loss in vitality must be to infants who lose much more than that, and then fail to gain correspondingly in the succeeding days. Such children may live from three to six weeks, being apparently at death's door all the time, and becoming more and more feeble and emaciated. In the grave form of athrepsia one may distinguish three periods—one which is marked by the phenomena of indigestion and by green diarrhœa; a second which is marked by vomiting, muguet, erythema of the scrotum, the thighs, and the anal region, emaciation, and chilliness. If suitable food be given, it is possible to restore the child even from such unfavourable conditions. The third period is that of cachexia, and is followed by death from exhaustion, or from complications which intervene. The rapid form of athrepsia is the most common one, the child succumbing in three to six weeks. In the slow form the child may even gain weight in spite of bad hygiene, and may reach the age of several months, dying without complications. The author distinguishes an acute athrepsia from the rapid variety by the fact that in the latter the infant has never been able to profit by the food which was given him, while the other made irregular progress, the regimen being tolerated for awhile, and then giving rise to gastro-intestinal disorder. The latter will die unless suitable dietetic changes are made; the former may be able to exist without much change of diet if he survives the gastro-intestinal attack. But a child who survives this bad usage is very likely to show the effects of it in his physiognomy, his bearing, his functions; and his nutrition. Such children become rachitic, have pulmonary or other serious troubles, their teeth appear late and are badly developed, and the individuals themselves usually die young. The mortality from this disease is very great. In the author's district, which includes a population of four thousand, about one-third of the deaths under one year of age, and one-seventeenth of the total number of deaths, were from this cause during a given period. All the infants were bottle-fed. The statistics of the entire city of Paris were even more astonishing, for there nearly two-thirds of the infants are bottle-fed. [An American physician is reported to have said that if Herod had only known of the long-tubed feeding bottles, it would have saved him some trouble.—*Reporter.*]

Solanum Carolinense (Horse-nettle). By George Foy, F.R.C.S. (*The Medical Press*, October 15th).—The claims of this plant to be considered a valuable therapeutic agent in convulsive affections have been brought forward by Dr. J. L. Napier, of South Carolina. The preparation used was a tincture prepared from the fruit of the plant. Dr. Napier has found it to be of great benefit in epilepsy, where bromides had failed. The dose of the tincture of the berries is from ten drops to a drachm, and should be pushed until drowsiness is produced.

The Diagnosis of Leprosy. By Dr. P. A. Morrow, of New York (*New York Medical Journal*, October 26th, 1889.)—Little was said in the text-books about the diagnosis of the disease, perhaps because few writers had been personally familiar with it. In the latter stages the diagnosis was not difficult, but in its inception it was often doubtful. In the examination of the suspects at Honolulu a large number were remanded for further developments, and it should be borne in mind that this was not owing to any lack of skill on the part of the physicians. Many of the initial symptoms were quite indeterminate, and might be referred either to leprosy or to other diseases. The affection was most likely to be confounded with erythematous diseases, with lupus, and with certain affections of the nervous system, while many parasitic diseases had lesions similar to those met with in this disease. Two main forms of leprosy were recognised—the tubercular and the anæsthetic. In one there was a determination of the process to the integumentary tissues, and in the other to the nervous system. In tubercular leprosy the prodromal symptoms had little value, and the same might be present in syphilis and other diseases. In this form the

presence or absence of anæsthesia was of no diagnostic value whatever. The eruption was not at all pathognomonic. The macules which first appeared were round, oval, or irregular, of a bright or sometimes dark-red colour, fading on pressure. As a rule, they were not infiltrated, and might disappear without a trace, or they might leave a yellowish spot. Sometimes they might present a picture similar to that of erythema multiform. After a time these macules became persistent, and then there was a tendency to the formation of tubercles; but the latter might develop in isolated spots, quite apart from the large erythematous areas. In its origin the disease resembled syphilis in the long period of incubation and the successive crops of the eruption. The syphilitic roseola corresponded to the leprous erythema; the mucous membranes were affected in each, although the throat was not affected in leprosy. There was more infiltration of the skin, especially in the face, in leprosy, and leontiasis was more often seen, as well as the breaking down of the osseous framework of the nose. Sometimes the tubercles of this disease resembled very much those of lupus. Sarcoma had been confounded with the disease, but when the fungoid state was reached and the tumour suppurated the distinction was easily made. The disease had also been mistaken for acne, sycosis, lichen planus, erythema modosum, molluscum fibrosum, and dermatitis medicamentosa. The *Bacillus leprœ* was invariably found in the tissues and stamped the disease when such examination could be made.

The anæsthetic form of the disease presented a greater variety and complexity of symptoms. While the demonstration of the bacillus was rarely practicable, yet the invariable presence of anæsthesia had almost a pathognomonic value. The nerves most frequently affected were the ulnar, the peroneal, and the third and seventh pairs. There might be wrist-drop and a peculiar claw-like contraction of the fingers. Since the pathological lesion was a multiple neuritis, it was not surprising that there were many diseases of the central nervous system which resembled leprosy. The atrophy and degenerative changes might be limited to the muscles of the hand and forearm, and might present a perfect picture of the lesions of progressive muscular atrophy. They were distinguished by the presence or absence of sensory disorders. The disease most difficult to distinguish from it was syringomyelia. This disease had formerly been considered to be very rare, and to be met with only *post-mortem*, but of late a number of cases had been reported. Its main symptoms were sensory disorders and trophic changes.

On Gunshot Wounds of the Abdomen, with especial reference to Wounds of the Intestines. By Lewis A. Stimson, M.D.—Until within a period relatively short, a discussion of the subject of gunshot wounds in a society of surgeons in civil life would have had an interest almost exclusively academical, and, apart from theoretical considerations and analogy, would have been based in great part upon experience gained at the edge of the battle-field and in the military hospital. But the times have changed, and now, to paraphrase a well-known quotation, Peace hath her military surgery no less renowned than war; and in some varieties of gunshot wounds, such as those of the trunk and head, the office of the military surgeon has diminished, while that of his brother in civil life shows the budding promise of an important development. The reason is not far to seek. On the one side, military fire-arms now discharge their fire-arms with such velocity that the wounds they inflict upon the viscera are very severe, and often beyond hope; while, on the other hand, the possession of parlour rifles and of pistols of small and medium calibre in all classes of the community has become very common, and the injuries inflicted by such, either accidentally or with hostile intent, have correspondingly multiplied. As an indication of this frequency of occurrence of such injuries, I may say that I can recall, without search of the records, twenty cases of serious bullet wounds personally treated by me during the twelve months last past; of these, seven were accidental, three were inflicted with suicidal, and ten with murderous intent. So long, therefore, as pistols are openly sold at prices that place them within the reach of almost every half-grown or adult member of the community; so long as love, anger and despair, greed and want, are strong motives of action; so long as youth is heedless; and so long as the idiot who thinks it is not loaded goes free in the midst of us—so long will gunshot wounds demand our care and attention, and deserve our thoughtful study.

All varieties of these injuries have shared in the benefits conferred by modern improvements in the care of wounds and in the stimulus to effort created thereby; but, while in wounds of the extremities the gain has been in the preservation of limbs that would otherwise have been lost, in gunshot wounds of the abdomen the interest is infinitely greater, for the issue is of life or death, and it is beyond dispute that many lives have been already saved by operation during the last five years which would certainly have been lost under the methods of treatment which had previously prevailed. It has been fully established that formal laparotomy, undertaken to discover and repair gunshot wounds of the intestines, may save lives that are in imminent peril; and that, consequently, under certain circumstances, it is a proper and justifiable operation. But from this to the position that in every gunshot wound of the abdomen that is probably perforating, a laparotomy should be performed, is a long step. It is not enough to have shown that some patients have survived laparotomy; it is not enough to have shown that those who have died without operation could have been saved only by one; it is not enough to have shown that laparotomy for other morbid conditions is daily done with a large measure of success and safety. It must also be shown thst it saves a larger proportion of wounded patients than other methods save; and, even if this is done, it must still be ascertained whether we cannot discriminate between the different injuries, and recognise those in which it is wiser to abstain.

The operation of freely opening the abdominal cavity to search for and repair gunshot wounds of the intestines is not a new one; it does not even belong solely to the period of antiseptic surgery, but it was performed, and successfully performed, more than fifty years ago. The principles which lie at the foundation have, of course, been apparent since such wounds were first inflicted. No demonstration was needed to show the desirability of closing the wound in the intestine, or the advantage of a free opening in the abdominal wall if sutures were to be applied, or if the wound was to be sought; but the fear of making such an opening, or of operating upon the intestines, was so great, and, indeed, so well founded as surgery was then done, that surgeons, with but few exceptions, almost down to the present time, practised and taught abstention, except when the wounded loop of intestine protruded through the opening in the abdominal wall or lay in plain sight beneath it. Under such circumstances they sutured the intestine and returned it, or they promoted the escape of fæces from within the cavity, and sought safety in the establishment of a fæcal fistula. Occasionally, the possibility of advantage in a more active intervention was more or less hesitatingly suggested; and Baudens, in a work published in 1836, reported a case operated upon in 1831, which is not only the first instance of the operation we are considering, but which was also said by the editor of the "Medical and Surgical History of the War of the Rebellion" to be, in 1877, "perhaps the only instance of completely successful enterorrhaphy for shot-wound on record." It is to be remembered that the earlier experience is drawn almost wholly from military surgery, and that the bullets were much larger, and discharged with a much lower initial velocity than at the present time. The wound of the abdominal wall appears usually to have been large enough at least to permit the introduction of the finger, and often to permit spontaneous protrusion of a wounded loop of intestine.

The great majority of these cases are of date subsequent to the publication of the opinions in favour of laparotomy quoted above. In all of them the treatment consisted almost solely in the administration of opium, and in many the parietal wound was washed with some antiseptic solution, and then covered with carbolic or iodoform gauze. Surgeons possessed, practically, all the knowledge of the pathology of abdominal shot-wounds, of the various processes by which death is caused or repair effected, and of the methods of operation upon the intestine which they now have. They knew what was necessary or desirable to be done to increase the chances of recovery, but their hands were stayed by the fear that to do what was necessary or desirable was even more dangerous than to leave it undone. The fear had heretofore been well founded, and operations in which the peritoneal cavity was freely opened deservedly ranked among the most serious. But with generalisation of the antiseptic method came increased security and confidence, and came also a revision of former notion of what was practicable and permissible, and a great increase in the range of operations. The opening of the peritoneal cavity for the relief of disease was done, not only with greatly increased frequency, but also with great success, and it became only a question of time and opportunity when it should be extended to gunshot injuries. The first operation under the new conditions and new ideas was done by Dr. Sévastopoulo, of Constantinople, in October, 1880; but, as it was not published until 1887, it remained without effect upon the opinions and practice of the profession. It was a repetition, and the first repetition if the cases of Nélaton and Pirogoff are excluded, under the protection of antiseptics, of Baudens's operation in 1831.

Swallowing a Toothbrush (*Medical Press*, October 16th).—Dr. Hashimoto relates the case of a woman, æt. forty-nine, who was in the habit of titillating the epiglottis and posterior part of the pharnyx with a toothbrush, which seems to have a holder easily detatched. On one of these occasions she swallowed the brush. About ten months after this occurrence an abscess formed over the region of the stomach, which burst, and allowed the pointed end of the brush so protrude. It seems that the attendant removed about a centimetre of the foreign body and allowed the wound to heal up, with still an uncomfortable feeling about

the stomach. About thirteen years afterwards another swelling and abscess formed in the region of the umbilicus, where the foreign body could be felt. After the abscess discharged, a fistula was formed, through which the brush was extracted, leaving an opening direct into the stomach, from which was emitted odourless gas, while the secretions were acid. In the course of five weeks the fistulous opening healed up. He related another case of a hairdresser, æt. thirty-six, who had a similar misfortune in swallowing his toothbrush, which protruded from the stomach about the sixth day after the accident, but unhappily by some perforation of the peritoneum or absence of adhesion to the outer walls, the patient died three days after its removal.

Billroth on the dangers of Carbolic Acid (*New York Medical Journal*, October 26th.)—The following note by Billroth, of Vienna, has been published; "I have lately seen four cases in which fingers, which had suffered a most insignificant injury, because gangrenous through the un-called-for application of carbolic acid. Carbolic acid is now so much less used in surgery than formerly; we have only gradually become acquainted with its dangers. The acid may not only cause inflammation and gangrene, but also blood-poisoning, and so may even prove fatal. It is useful only in the hands of a skilful surgeon, and ought never to be used without his advice. The best lotion for recent injuries is the ordinary lead lotion, which can be bought at any chemist's. The best antidote in carbolic acid poisoning is soap, which should be taken immediately and repeatedly until all symptoms of poisoning have disappeared."—*Lancet.*

Poisoning by Illuminating Gas—Rational Treatment. By William C. Kloman, M.D., Baltimore (*New York Medical Journal*, October, 1889.)—Modern illuminating gas, the so-called "water gas," is a much more dangerous poison to the human system than the original gas made from coal. Booth ("Encyclopædia of Chemistry") states that illuminating gas made from coal consists, on an average, of light carbureted hydrogen, 57-7; carbonic oxide, 7.7.; hydrogen, 21.2, etc., while the modern gas, on the authority of Professor P. B. Wilson, inspector of gas, etc., contains from 20 to 30 per cent. of carbonic oxide, showing an increase of from 300 to 400 per cent. Now, there is every reason to believe that the carbonic oxide is the actual poisonous constituent of illuminating gas.

The actual nature of poisoning by carbonic oxide is yet a mooted question. Some authorities, such as Claude Bernard, Hoppe-Seyler, and others, believe the symptoms are entirely due to merely a deprivation of oxygen; others, such as Klebs, believe that carbonic oxide has narcotic properties acting on the central nervous system, independent of its power of robbing the blood of oxygen. At any rate, it is established that carbonic oxide has the power of decomposing the oxyhæmoglobin and forming a new compound with the hæmoglobin, combining in the same volumetric proportions and forming a new compound with the hæmoglobin, combining in the same volumetric proportions and forming a new compound which is crystallizable and which can be separated from the blood. This new compound is more stable than oxyhæmoglobin, and is not decomposed by the presence of oxygen. In fact, to the extent of its presence in the blood, it seems to render the absorption of oxygen impossible, and if the entire quantity of oxyhæmoglobin of the blood is replaced by it, life is no longer possible.

On September 4th, 1889, I was called at 6-30 a.m., to see Diana, a coloured girl æt. seventeen years, a domestic in the family of Mr. S. She had recently come to the city from Virginia, and was not familiar with the use of gas. She was shown how to turn off the stop-cock and extinguish the flame. She went to bed at about 10 p.m., and was found insensible in her bed at 5 a.m., or soon after. The room door and window were both closed and the atmosphere filled with the smell of escaping gas. The stop-cock was found partially turned off. Before my arrival she was moved to the adjoining bath-room, where the window was open. I found her lying upon the floor; her limbs were cold and relaxed; I could feel no pulse at the wrist; there was no sign of life except respiration, which was shallow and stertorous. The eyes were partly open, staring and fixed; the conjunctivæ were intensely congested; the pupils moderately dilated and insensible to light; the eyes were also insensible to touch. She was in a profound coma. I at once dissolved one of Sharp & Dohme's hypodermic tablets of nitroglycerin, one fiftieth of a grain, in my hypodermic syringe, and injected the solution into the proper arm. Her body was directed to be covered with blankets. In about two minutes I could feel pulsation at the wrist, and in five minutes her pulse was full and strong. *Pari passu*, the respiratory movement deepened and her limbs began to grow warm. In about fifteen minutes, while yet unconscious, she showed signs of vomiting; I turned her on her side, and she vomited some mucus and partly digested food containing some pieces of tomato. Soon after this she became partly conscious, and reaction being thoroughly established, I wrote a prescription for æther, sulph., ℥ss.; elix. ammon. valer., ℥jss., and directed that during my absence a teaspoonful diluted with water be administered every second hour. I returned to see her in about three hours, when, to my surprise, Diana walked into the parlour. She told me she was all right except for a slight headache. She also said that she had been constipated for several days, for which I ordered her a purgative. Beyond this she had no medication. Her headache continued for two or three days, but did not interfere with the performance of her duties.

A noteworthy point in this history is the length of time during which the patient was exposed to the inhalation of the gas—a period of not less than seven hours. I was doubtful of this until her recovery, when I questioned her, but found that she recollected nothing from the time she went to bed until she regained consciousness in the morning. It is not possible for me to state how much percentage of gas was in the atmosphere she breathed during the night, for the stop-cock was entirely turned off at once and the door and window of the room were opened before I came. In this connection, however, we must remember that there is a great difference in the susceptibility of different persons to its poisonous influence. Yet, whatever the amount of gas respired, it was evidently enough to render her deeply comatose and very nearly deprive her of life.

II.—SELECTIONS FROM CONTINENTAL MEDICAL JOURNALS.

By G. F. Cadogan-Masterman, M.D.

Diabetic Coma. By Dr. Gaston Lyon (*Revista de Ciencias Médicas*)—*continued from p.* 696.—This immunity in the dog is partly physiological, partly pathological. A flesh-eater has, obviously, more of the materials at hand for forming ammonia than an animal confined to a vegetable diet; and when this facility in production is stimulated by the necessity for neutralizing and, so, safely carrying off a poisonous acid, its formation may be correspondingly rapid without any very great strain—for a time at least—upon the system.

But when this excretion of ammonia—which may be formed *pari passu* with the acid it has to combine with—cannot be provided for, the acid forms a salt at the expense of the soda existing in the blood, and at once deprives that fluid of its most important respiratory base. "The blood acts as an absorber and carrier of carbonic acid solely by the presence therein of the alkaline tribasic-phosphate of soda, which not only absorbs carbonic acid better than a solution of the carbonate, but gives up the whole of it on exposure to the air" ("Gregory Chem.," vol. ii.). In a fluid containing free acid this salt cannot exist, and a phosphate forms containing two equivalents of combined water which is not a solvent of carbonic acid. So we have here one explanation of the coma: it is due, but only indirectly, to the presence of abnormal acids (or in abnormal quantities) in the blood, either diacetic, oxybuteric, crotonic, or formic—all of these have been found—or some mineral acid introduced artificially; but neither of these can, *per se*, produce coma, *that* is due to the accumulation in the veins, cells or lymph of the brain, of carbonic acid, from the inability of the alkali-robbed blood to carry it off to the lungs for expulsion.

And this, too, affords an explanation of the dyspnœa of diabetics, or, not to neglect the factor of the weakened heart, at least of great part of it. This dyspnœa is one of the chief evidences of the increased gravity of the case, and is often as distressing as in the severest cases of asthma. "The patient seems as if he were thirsting for air, and makes prodigious efforts both in filling and—in this respect differing from the asthmatic—in emptying the chest, in strange contrast to his aspect of helpless exhaustion" (Knumaul). And there is no orthopnœa, in this, again, differing from the asthmatic, and, which lends additional support to the idea that the trouble is not due so much to difficulty in the circulation of the blood, as to absence of the power to carry carbonic acid therein.

When the disease has reached the stage of coma the symptoms are: (1) The odour of the breath and of the urine; (2) respiratory difficulties; (3) gastro-intestinal disorders; (4) nervous disturbances. The odour of the breath, as has been observed, may be noticed in the earlier stages of diabetes before coma is threatened, but as this latter stage is approaching, or has been reached, it is much more marked, may sometimes even pervade the atmosphere of the house.

In the urine the odour may usually be detected, but is not so marked. And this secretion is generally lessened in quantity, contains about the normal amount of urea, less sugar, and frequently albumen; and perchloride of iron pretty constantly gives the Burgundy-wine colour characteristic of diacetic acid.

The dyspnœa is highly symptomatic, although that due to albuminuria somewhat resembles it; but it has one feature, the Cheyne-Stokes rhythmn, which is absent in the latter.

The gastro-intestinal troubles are always marked—often severe:

nausea, sometimes actual vomiting, abdominal pain and diarrhœa. From the profound disturbance of the hepatic functions the motions are occasionally as frequent, liquid and colourless, as in cholera. And the pain may be so great as to suggest peritonitis did not the always lowered temperature eliminate this error.

The effects on the brain are two-fold. At first there is often evidence of stimulation or irritation; there is unusual gaiety, exhilaration, sometimes incoherence in language, even maniacal delirium; or, perhaps, only extreme restlessness. But depression soon follows, the patient becomes passively indolent, utterly apathetic, vacant and somnolent. And this at length passes into unmistakable coma, the border-land of death, with but a step to overpass it.

But the end may be reached during any one of these stages. The dyspnœa, the diarrhœa, the exhausted heart may precipitate the death of the sufferer. When coma is fully developed the patient cannot be aroused, but lies helplessly supine, the face pale, speech lost, with no paralysis, but invariably with a greatly-lowered temperature. Of these symptoms three are pathognomonic: the characteristic dyspnœa, the odour of the breath, and the subnormal temperature. In conjunction they distinguish diabetic coma, with sufficient clearness, from any other which a doctor who had not previously seen the case might confuse with it. For instance, in apoplectic coma there is the accompanying hemiplegia; no sugar, no acetone in the urine, and the temperature is usually raised.

In the alcoholic there is the red, swollen face, natural or raised temperature, and no sugar nor acetone odour of breath. In the saturnine there is the blue line on the gums and, again, neither sugar nor acetone; and in these three cases there is no dyspnœa present.

Cases of poisoning by opium present more similarity to diabetic coma, especially as the urine then often contains sugar, and any meconic acid passing the kidneys would give a red reaction with perchloride of iron; but the contracted pupils, the odour of the breath, and the character of the respiration, distinguish them.

The most difficult to differentiate is uræmic coma, for any of the little water passed would contain albumen, and there is dyspnœa as well; but it is less profound, and the Cheyne-Stokes sequence is absent, while convulsions are usually present.

This new theory has necessarily suggested a change in treatment to the extent of the free use of carbonate of soda, both by the mouth and by intervenous injections in conjunction with common salt, but up to the present time the results have been most unsatisfactory.

Treatment of Tonsillitis. Dr. Haberkom (*Centralb. f. Chir.*).—Chlorate of potash alone, or in combination with hydrochloric acid in the form of gargles, or taken internally, is so often disappointing in the treatment of enlarged tonsils that better means are desirable. The belief that the disease is of parasitic origin has led to the use of such dangerous germicides as carbolic acid and bichloride of mercury; whilst the harmless, if not very active boracic acid has pretty well displaced the chlorate in domestic practice. Then salicylic acid was used, and with excellent results when applied judiciously. In the form of gargle it is least satisfactory, and often fails to reach the affected surface; as spray it is better, but to use that effectually trained hands are needed.

The best and simplest mode is to apply the powdered acid directly by means of a rather large camel's hair pencil, which may be slightly moistened. In this way it is brought directly in contact with the diseased surface, and but few applications are necessary. And it may be used with very young children after a little coaxing.

When the tonsils are covered with a thick mucous coating—which may be diphtheritic—it is necessary to previously remove it, and the following liquid, to be also applied with a brush, acts extremely well:

Pepsine	30 grains.
Dilute hydrochloric acid	ʒ i.
Water	ʒ v.
Glycerine	ʒ iv.

The coating is quickly dissolved (digested) in this solution.

Besides applying the acid locally, it is advisable to give it internally at the same time, thus:

Salicylic acid	30 grains.
Mucilage of Acacia	℥ i.
Simple Syrup	℥ ss.
Water	℥ ivss.

Mix.: A tablespoonful every two hours.

In the more chronic forms it is well to pencil the tonsils over with:

Tannin	15 grains.
Tincture of Iodine	2 drops.
Glycerine	ʒ v.
Water	ʒ oi.

or it may be used as a gargle.

For the prompt dispersal of threatened quinsy, apply with a brush three times a day the following solution:

Tannin	15 grains.
Tincture of Iodine	3 drops.
Carbolic acid	ʒ ss.
Glycerine	ʒ v.
Water	ʒ iiss.

Bromidrosis.—From experiments which have been carried out on an extensive scale in the Prussian army, it is found that this disagreeable affection can be very successfully treated by the application of a 5 per cent. solution of chromic acid. The feet should be thoroughly washed and dried, and then lightly brushed over with the solution. The application may need to be repeated three or four times at intervals of a week in obstinate cases.

Report of the Commission on the Prophylaxis of Tuberculosis (*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*).—The members of this commission were: MM. Terneuil, German Sée, Dujardin-Beaumetz, Cornil, and Villemin; and the most important of their conclusions are:—

That the terrible mortality due to tuberculosis must not be reckoned only from the cases of phthisis, but that a large number of examples of bronchitis, pleurisy, meningitis, peritonitis, enteritis, diseases of bones and their articulations, indolent abscess and others, are due to the same fatal and protean source.

Tuberculosis is an infectious, parasitic malady caused by a microbe, but can only be conveyed to healthy individuals under special circumstances. Besides its transmission by descent (*a point which is, at least, doubtful.—Trans.*), the microbes can gain entrance aërially by the organs of respiration, by the stomach mixed with food, by the mucous membranes, and by the skin through wounds, scratches, or punctures.

The most common and active source of contagion is to be found in the sputum of consumptives. In its liquid state this has little activity, and can only very rarely do mischief; it is when dried and reduced to powder by attrition that it is most dangerous. When expectorated on the ground, the floor, or the surface of walls, on one's clothes, carpets, bed coverings and curtains, even in handkerchiefs or napkins, it may readily be reduced to this pulverent form, and then be distributed by the air, to be absorbed by the lungs, settle on one's skin, on mucous surfaces, or become mixed with food. In the fæces, also, of the phthisical, the microbe exists, and may be disseminated by similar means. Therefore the utmost care should be taken in the reception and disposal of the sputa; the spittoon should always contain water or some antiseptic liquid—never sand, sawdust or ashes. The contents should be thrown daily into the fire, and the vessel well washed with boiling water. It should never be emptied into drains, on dunghills, or on the soil of gardens.

Handkerchiefs should never be allowed to become dry before washing, but be put into water as soon as possible after use. But the best plan is to use some cheap material and burn it. (The Chinese custom of paper *mouchoirs* might well be adopted in these cases.—*Trans.*)

A healthy person should not sleep in the same bed as a consumptive, nor, if it can be avoided, in the same room.

In hotels and establishments devoted to the use of consumptives, the furniture should be of the simplest kind and readily washed; and all textile fabrics should be disinfected before a change of occupancy by heating in steam under pressure.

Besides the chances of human contamination, there is the ever-present danger of infection by tuberculous animals. The fatal microbe may be found in the milk, the flesh, and the blood of those used for the food of man; in beef, in cows', goats', and asses' milk, the flesh of rabbits and fowls.

Cow's milk is most frequently infected, that of the goat and ass much more rarely. But it is safer to boil them all before used as infants' food. The carcases of all animals slaughtered for food should be jealously examined before the meat is permitted to be sold. There is a horrible practice, common in France, of people frequenting the *abattoirs* for the sake of drinking the warm blood—one is glad to hear that it is exceedingly dangerous; and meat should not be cooked in large joints, since the bacillus can stand a high temperature with impunity. The children of tubercular parents are most inimical to the disease, and this is obviously true, apart from the possibility of congenital infection.

Apepsia, Dyspepsia and Bradypepsia. Dr. Torras y Pascual (*Revista de Ciencias Médicas*).—All pathologists, writers, and observers are in accord in wishing to banish the word dyspepsia from our nosology, but it is one we are constantly using and hearing used without protest and yet without any warrant for its employment. It is like the equally convenient and equally inexact phrase "congestion of the lungs" which we carelessly apply to conditions as diverse and as little explained by it. And why is this? It would seem to be due to our

fondness for prescribing and administering the innumerable so-called remedies of the druggist, in place of carefully working out a rational system of therapeutics for ourselves. It is much easier to direct the taking of a little bi-carbonate of soda, of bismuth, of calumba and ginger, than to endeavour to discover amongst the complex chemical and mechanical problems of digestion and assimilation, which organ, which function or which ferment is in fault. "To know what we do, and why we do it, is a rare faculty," says Bouchard, "but to the doctor it is entirely novel." ("*El saber lo que se hace y el porqué se hace, es cosa rara; para el médico es cosa nueva.*)"

Such a prescription as the above is given to relieve pain; then we give diastase, pepsine, pancreatine, papaine, myrosine and so on to relieve the stomach of its work and duties altogether. Or the stomach is washed out with a syphon, paralysed hydraulically and allowed to set to work once more. This is pure empiricism; treating the results of a disease instead of the disease itself, or a disease in place of a patient who is suffering from it.

Ever since the time of Galen, and probably long before, bradypepsia and apepsia—the former (from *βραδυς, slow*) simply meaning an unusual prolongation of the digestive act, the latter its arrest altogether. The term dyspepsia was invented by y de Goris much later, and applied to a condition characterized by sour eructations, fœtid dejections and evidence of putrefactive decomposition of the food. It meant, then, a state not merely mechanical, nor simply unduly prolonged, nor of complete inactivity, but a chemical change which leads to decay in place of disintegration. If the word were used strictly in this sense it would be unobjectionable and would have a clear and precise meaning, but this is exactly what is rarely done.

Accepting this definition one understands why the word occurs so rarely in the lists of cases treated by specialists. In fact, the cases of chemically defective digestion due to some known cause such as cancer, chronic gastritis, mucous catarrh, ulcer, and so on, are rare compared with those of gastro-enteric atony, paresis of the muscular fibres of the stomach and intestines, which constitute the bradypepsia so often confounded with it.

If one is unaware of this condition, or disregards it, it results that what was at first simply an indolent digestion, becomes a painful one; there is gaseous distention, the partially digested food lies a long time in the colon, irritating the mucous lining, and gives rise to colic and the severe pain of flatulent distention. This pain is really confined to the transverse colon, but is referred by the patient to the stomach, and very often to the heart; and then, as the pain is often treated as if it were the source of the evil, a very simple case is mismanaged into one of chronic discomfort. Soda and opium are given, when nux vomica and aloes would have rectified the whole mischief.

Ricord.—"Le dix-huitième siècle avait une dernière sottise à commettre avant d'expirer"—dit un jour Ricord—"celle de me mettre au monde. Je suis né le 31 décembre, 1799, à onze heures trois quarts du soir."—(*Le Progrès Médical*).

Utilite du pavage en bois.—Le pavage en bois, ça permit aux habitants de dormir? Je crois bien . . . . le nombre de naissances a diminué dans toutes les rues pavées en cette mamière.—(*Journal d'Accouchements*).

[Erratum.—Insert "of Fowler's Solution" after "half an ounce," p. 704, line 38, November issue of P.M.J.]

III.—NOTES FROM FRENCH JOURNALS.

By H. R. Hatherly, M.R.C.S.

Influence of Anæsthetics on the Force of Respiratory Movements (*Le Progrès Medical*).—Dr. Langlois, of Paris, has observed that anæsthetics diminish the force of respiratory movements. Dr. Richet noticed, with him, that the expiration of a dog under the influence of morphia or of chloral was rapidly affected, whilst the inspiratory force was scarcely influenced. The reason is that inspiration is normally automatic, whilst expiration is due above all to elasticity. In administering an anæsthetic, it is the expiratory movement which should be most carefully watched.

Action of the Liver on Poisons (*Le Progrès Medical*).—Dr. Roger, of Paris, points out that the liver modifies the toxic effects of several poisons, as has already been noted by Schiff, Hegar, Jacques, and Lautenbach. He has performed certain experiments which demonstrate clearly its modifying action with regard to—nicotine, atropine, quinine, and strychnine; also certain putrid and intestinal poisons, peptones, and some salts, particularly ammoniacal salts. On the other hand, the liver exercises no influence over other substances, such as digitaline, some salts (potash and soda), glycerine, etc. The liver, therefore, like the kidney, possesses an elective action. To control these results it is necessary that the poison should be absorbed very slowly. In the case of a diseased liver (cirrhosis, fatty degeneration, etc.), in which the parenchyma no longer contains glycogen, the liver does not act on poisons, but it suffices to administer substance capable of forming glycogen to see the hepatic gland again competent to transform poisons. The action of the healthy liver is continually exerted against toxic substances in the system, it is still more marked in those infectious diseases in which decided toxic effects are produced. Some clinical facts go to prove that many morbid symptoms are due to insufficiency of the liver in regard to poisons.

Pathogenesis of the Microbes contained in Malignant Tumours (*Le Progrès Medical*).—Dr. Verneuil has directed attention to the fact that the tissues, which are the seat of malignant neoplasms (cancers, sarcomas, epitheliomas, etc.), may, at a given moment, be invaded by divers microbes, the origin, species, and nature of which, it has, so far, been impossible to determine. This invasion, the causes and mechanism of which are alike unknown, may remain latent for an indefinite period, but in certain cases, in the evolution and nutrition of the tumour, it may lead to several modifications, such as the rapid enlargement, the softening, or the ulceration of the part affected. Microbes are not to be found in all neoplasms, or even in all neoplasms of the same kind, nor yet in every portion of the neoplasm invaded. They are not to be found, for instance, in lipomas or in pure fibromas; they cannot be found in the early stages of sarcoma or cancer, in which the progress is slow, and the growth is covered by healthy skin; on the other hand they are nearly always to be found in softened and ulcerated tumours. These microbes, besides their irritant, phlogogenic, and pyrogenic action, which they exercise locally even on the diseased tissue possess other pathogenic properties, which may affect the whole system. Thus, so far as an opinion can be found, they may give rise to a more or less intense and irregular febrile condition, whilst they are pent up in a tumour about to grow rapidly or to soften. Moreover, during the removal of a tumour, they may impregnate the fluids contained in the softened parts, infect the operative wound, and so inoculate it as to develope speticæmia, which may lead even to death. The knowledge of this last fact pleads strongly in favour of the removal of malignant neoplasms, so desirable from every point of view, and suggests forcibly to surgeons the necessity of adopting preventive measures, both during and after operations, for the extirpation of tumours infected with microbes.

Bovine Pleuro-Pneumonia (*Le Progrès Medical*).—M. Arloing, who has been studying the lesions due to contagious pleuro-pneumonia in cattle, has succeeded in isolating four distinct species of microbe from the diseased lung. It is probable, however, that one species alone constitutes the essential virus.

Poisoning by Creoline (*Le Progrès Medical*).—Dr. Von Ackeren records a case which he is pleased to describe as one of poisoning by creoline. A person wishing to commit suicide swallowed eight ounces of creoline; after a few days illness he completely recovered. Creoline can hardly be reckoned amongst the more deadly poisons.

New Treatment of Extensive Prolapse of Rectum (*Le Progrès Medical*).—Dr. Schwartz, of Paris, has recently operated on a patient suffering from extensive prolapse of rectum, complicated by epilepsy. The anterior portion of the prolapse involved the small intestine constituting a true hernia. It was impracticable to use any cutting instrument on account of the peritoneal *cul de sac* situated in front, and the difficulties of antiseptic treatment. There was no contractility of the anal sphincter; the whole of the hand could be introduced. He resolved to operate on the intestine without resection, and to contract it so as to form a new sphincter. His first idea was to denude the intestine of strips of mucous membrane lineally, and stitch the edges together, but he was obliged to abandon this idea on account of the hæmorrhage. He then substituted six broad lines produced by a thermo-cautery. He then dissected away the surface of the anterior portion of the perineum (which permitted the prolapse) four centimetrés in width, and two in height. The whole was sutured with four strong silver wires. The rectum was tamponned, and the whole dusted with iodoform. A period of excitement followed, rendering a straight jacket necessary. Healing progressed favourably, although one of the sutures gave way; a fistula was formed, but subsequently healed. Nine months after the operation the perineum was entirely restored, and the sphincter was active. There is no prolapse of the rectum. The epileptic condition is modified, there having been only one attack since the operation. A similar operation was performed by Dr. Duret previously on another patient. (Dr. Schwartz omits to state the sex of the patient.)

Cholecystectomy for Biliary Fistula (*Le Progrès Medical*).—Dr. Michaux, of Paris, has recently had a successful case. The operation consisted in dissecting down to the gall-bladder, which was found to contain two gall-stones; then having previously ascertained

that the ductus choledochus was patent, two ligatures were applied, and the fistula was divided between them. The patient made a good recovery.

Lipoma of the Breast (*Le Progrès Medical*).—Lipoma of the breast is a rare disease, even in the female, only three cases being recorded. Dr. Quierel, of Marseilles, has recently met with a case in a man, æt. sixty-four. The lipoma was as large as a child's head.

Progress of Cholera in Mesopotamia (*Le Progrès Medical*).—According to Dr. Proust the actual increase of cholera in Mesopotamia demands from Russia the strictest sanitary precautions in the neighbourhood of the town of Recht, at the south of the Caspian sea. This town is only two hours walking distance from the port of Enselli, which is in daily communication with Bokhara and Afghanistan. Cholera has already appeared at Kerinanshah and Hamadan. It is, therefore, a necessity that Russia should protect Europe on the Persian frontier, or we may have to fear an epidemic similar to those of 1830 and 1846.

Abdominal Hysterectomy, followed by Insanity.—Dr. Polaillon, surgeon to the Hospital of La Pitié, reports in *L'Union Médicale*, a successful case of abdominal hysterectomy; the patient recovered from the operation, but during convalescence became insane.

Corrosive Sublimate in Gangrene of the Lungs (*L'Union Médicale*).—Dr. Korany has found that inhalations of twenty cubic centimetérs of a solution of corrosive sublimate (5 centigrammes to a 1000 grammes of water), repeated three times daily, have been successful.

Extirpation of the Larynx (*L'Union Médicale*).—Professor Demous, of Bordeaux, has exhibited a patient in whom he had removed two and a years previously the whole of the larynx for a circumscribed epithelioma of the right vocal cord. The patient did not wear any phonetic apparatus, but was able by certain movements of the tongue and lips to speak intelligibly, although in a low tone.

Removal of Tumours (*L'Union Médicale*).—Dr. Roux, of Lausanne has removed an immense chondro-sarcoma of the iliac bone; he disarticulated the whole bone after separating it from all its muscular attachments. The bone was partially reproduced, and two years after the operation the patient was in good health and able to pursue his usual business. Dr. Thiriar, of Brussels, has removed a fibro-lipoma of the cellular capsule of the kidney, weighing eleven kilogrammes. It was at first mistaken for an ovarian cyst, and laparotomy was followed by nephrectomy. Recovery was rapid. Dr. Boutaresco, of Buccharest, has removed a double cystic goitre, which was threatening suffocation behind the sternum. Each half was removed separately at an interval of seven months. The patient was cured although the retro sternal portion was left.

Formation of Urinary Meatus from the Ureter in the Side (*L'Union Médicale*).—Dr. Le Dentu has performed this operation for a patient who was threatened with death from retention of urine caused by a tumour. Urine was voided freely through the artificial urinary passage, but the patient died of cachexia the fourteenth day after the operation.

Butylchloral for Neuralgia of the Trifacial (*Journal de Medicine*).—According to Leibreich, butylchloral possesses in addition to its soporific properties, a truly specific action on the trifacial nerve, anæsthesia is produced along the whole of its course after the administration of from one to three grammes of this drug.

Sterilised Milk for the Alimentation of Children (*Union Pharmaceutique*).—Sterilised milk is an excellent food for young children, and it is hoped that its introduction may diminish the great mortality attached to this period of life. The municipality of Liepzig has sent a circular to all the chemists in the town to ask if they would undertake to provide sterilised milk after the method of Soxhlet, a process requiring some skill. The sale of this milk will be a new branch of business for chemists.

Treatment of Thrush by Saccharin (*Journal de Medicine de Paris*).—Ten consecutive cases of thrush following measles have been treated by Dr. Fourrier by mopping with a solution of saccharin in alcohol (1 in 50). In eight cases the deposit disappeared in from twenty-four to thirty-six hours. In the other two cases three days were required. Dr. Fourrier orders the mouth to be mopped out five times daily.

Illegal Practice (*Journal de Mèdicine*).—A widow, named Aglaé Bathaupieu Barouge, has recently been prosecuted for roguery and illegal practice of medicine. One of the witnesses testified that she had consulted Widow Barouge about her daughter, who, she alleged, was unable to say no to anyone, and whose figure beneath her apron was assuming such proportions as to cause grave anxiety in the family circle. Madame Barouge made the sign of the cross on the back and stomach, and then assured the witness that the demon in her daughter's inside had flown away. The prescription given her by the prisoner was as follows: "Take three tails of red herrings, and soak them in holy water, add two carrots, a pinch of hair from a white cat, which has been cut six months, three teaspoonfuls of water from Lourdes, etc., the whole to be boiled for six hours and thirty-seven minutes, repeating the meanwhile every quarter of an hour five *paters* and five *aves*. The mixture to be filtered through pure linen. Twenty-nine drops to be poured on the navel every night whilst saying three times, 'Gentle Jesus, Mèlie has it no longer.'" Other witnesses were called who gave similiar testimony. One old maid deposed that she had been defrauded of 400 francs to get rid of a moustache which still remained; and the son of a policeman who indulged in a fond hope that hair would grow on his chin, also found that the remedies prescribed were a snare and a delusion. Widow Barouge, a little wizened old woman, with a hook nose, and who was gorgeously arrayed in a black silk dress trimmed with lace, and who was loaded with jewels, appeared to attach little importance to the proceedings, inasmuch as the coffee grounds she had examined in the morning foretold she would be acquitted. She was sentenced to three months imprisonment for roguery, and an additional fortnight's imprisonment with a fine of 200 francs for illegal practice of medicine, notwithstanding the coffee grounds.

Hydrophobia (*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*).—A man named Rascol, a rural postman, was bitten by a dog on the 28th February, 1889, through two thicknesses of trousers, and was sent to the Pasteur Institute, by his administration to undergo treatment. He was treated for fourteen days, but, nevertheless, died of hydrophobic paralysis on the 14th of April last, forty-six days after being bitten. A neighbour of his who was bitten just before Rascol, on the same day and by the same dog, continues in good health seven months after his bites. He has undergone no treatment.

IV.—NOTES FROM RUSSIAN, POLISH, AND SWISS JOURNALS.

By Valerius Idelson, M.D., Berne.

On the Influence of General Anæsthetics on the Respiration.—At the first International Congress of Physiology at Basle, Dr. P. Langlois, of Paris, read a paper on this subject (*Correspondenz-Blatt fuer Schweizer Aerzte*, October 15th, 1889, p. 612), based on some experiments carried out by himself, conjointly with Professor Richet. The essential outcome of the researches is this: Under the influence of all general anæsthetics, more especially under that of hydrate of chloral, the expiratory movements become invariably affected (weakened) to a far more considerable degree than the inspiratory ones. Given an animal in the state of a deep narcosis, an artificial resistance set to the expiratory movements of the chest rapidly gives rise to asphyxia, and that even when the said resistance amounts only to some ten or twenty millimetres Hg. A much higher pressure is required to induce an inspiratory asphyxia. The fact certainly deserves attention of all who happen to practise general anæsthesia in man or animals for therapeutic or physiological purposes.

On Surgical Treatment of Empyema.—Following the suggestion by Professor Courvoisier, Dr. Benedict Simonett, of Basle (*Basle Inaugural Dissertation*, 1889, pp. 47), has undertaken a comparative statistical inquiry into the results obtained in empyema from surgical treatment after various methods in vogue. His materials consisted of (*a*) fifteen cases operated upon by Professor Courvoisier (in the Riehen Diaconissen-Spital). In the fifteen patients the following sixteen operations were performed: One simple tapping (which failed to bring any relief, hence a subsequent resection of rib became necessary); thirteen simple resections of rib (nine with good results, two patients soon died from phthisis and miliary tuberculosis respectively, in one a permanent fistula remained, and in one two thoracoplastic operations became subsequently necessary); and two thoracoplastics (in the case just mentioned). In the nine cases cured by resection of rib, healing took place on an average in thirty-nine days. (*b*) Five cases treated by Professor Immermann (in the Basle Buergerspital) after Buelau's method with aspiration and drainage. Of the five, two referred to simple empyema, and were cured in 153 and 73 days respectively; in the other three, pyo-pneumothorax existed; two of them died, the third (a phthisic patient) being still under observation. (*c*) Cases collected by the author from international literature. As may be gathered from the author's three tables (which include the twenty cases mentioned above), in 107 cases simple thoracotomy (by an intercostal incision) was performed, with sixty cures, thirty-five deaths, and twelve failures (permanent

fistule), healing ensuing on an average in seventy-five days. In other seventy-nine cases, simple resection of rib was made, with fifty-five cures, eighteen deaths, and six failures, healing taking place on an average in sixty-three days. In a third group, consisting of fifty two cases, thoracoplastics were resorted to, with twelve cures, thirteen deaths, twenty-four "improvements," and three failures.

The principal general conclusions drawn by Dr. Simonett from his important researches may be summed up as follows: (1) A simple tapping alone is utterly powerless to cure empyema. (2) An intercostal incision alone (without resection of rib) should not be practised even in recent cases, since it favours stagnation of pus, and is apt to unduly protract the course of recovery. (3) The best method is resection of rib, which gives most successful results, and secures a most rapid recovery. Hence, it should be resorted to in all cases of empyema.

On the Action of Naphthaline on the Eye and General System.—In order to study the effects of naphthaline on the eye, Dr. Jozef Kolinski, of Warsaw, has carried out (*Gazeta Lekarska*, 1889, No. 30, p. 603) a long series of very careful and interesting experiments on rabbits, dogs, guinea-pigs, and white mice. The drug was introduced into the animal's system in various doses, shapes, and ways, the individual observations lasting from a score of hours to seven months, and the whole inquiry about eighteen months. The author arrived at the following conclusions:

1. When used in large (toxic) doses, naphthaline gives rise to a peculiar train of changes in the eye, as well as in almost all internal organs of the body.

2. On the whole, the drug appears to create in the system a pronounced tendency to hæmorrhage—something like a "hæmorrhagic diathesis."

3. The morbid changes anywhere in the body begin with hæmorrhages into tissues.

4. The primary ocular changes consist in extravasations of the blood into the choroid coat (between the retina and pigment layer), which swiftly lead to circumscribed separation of the retina and vitreous body.

5. In connection with the lesions in the choroid, retina, and vitreous body, there develops, in a secondary way, a genuine cataract of a peculiar type.

6. Speaking generally, the naphthaline cataract arises in the same manner as an ordinary soft cataract, coming nearest to a diabetic one.

7. In cases of acute naphthaline poisoning (induced by large doses of the drug), the development of the cataract proceeds very rapidly, the process reaching its height sometimes in a few hours. It is always accompanied by an intense swelling of the lens, which speedily assumes an almost regular spheroid shape. Fairly often, a considerable tumefaction of the posterior wall of the capsule is also observed.

8. In initial stages of the cataract there arises an irregular astigmatism, which is to be explained partly by some accumulation of Morgagni's aqueous fluid beneath the capsule, and partly by a circumscribed degeneration of the under-capsular cortical mass.

9. In the retina, vitreous bony, and cornea (and sometimes in all bon-vascular ocular structures) there are discovered peculiar crystallinic nodies, which prove to consist of phosphates of calcium.

10. The concretions are met with only in cases of chronic naphthaline poisoning.

11. In course of time, the cataract undergoes a partial absorption. [The author never yet saw a complete resolution of the process.]

12. The changes in the vitreous body seem to be of a permanent nature; at least, they remain *in statu quo* even after the lapse of many months.

13. The lesions in the retina and choroid show with time some improvement. A complete restoration of a healthy condition of the coats is, on obvious grounds, impossible.

On the Influence of Saccharin on the Assimilation and Metabolism of Nitrogen in Healthy Persons.—In a preliminary note in the *Vratch*, No. 38, 1889, p. 836, Dr. Semïon L. Savitzky, of St. Petersburg, describes a course of experiments, carried out by him in Professor V. A. Manassein's clinic, in order to elucidate the action of Fahlberg's saccharin on the assimilation and metamorphosis of proteids in healthy subjects. In all, five observations (each of ten days' duration) were made. The substance was given internally, in the daily dose varying between 0.2 and 0.4 gramme. The essential outcome of the researches may be given somewhat as follows:

1. Saccharin does not in the least disturb any digestive processes, the consumers invariably tolerating it perfectly well.

2. In the doses stated, the substance invariably augments the assimilation of nitrogen. [In one of the subjects, the assimilation rose from 86.94 per cent. to 92.74; in a second, from 96.04 to 96.59; in a third, from 91.27 to 93.59; in a fourth, from 92.34 to 93.27; and in the fifth, from 91.21 to 95.83.]

3. But the nitrogenous metabolism always sinks. [In the first patient it decreased from 102.19 per cent. to 86.76; in the second, from 117.91 to 101.58; in the third, from 87.27 to 82.71; in the fourth from 86.75 to 76.03; and in the fifth, from 99.94 to 86.42.]

4. In the latter regard, saccharin closely resembles quinine, which similarly inhibits the proteid metamorphosis. In either case, the phenomenon should be attributed, probably, to anti-fermentative and antiseptic properties of the substances.

5. The question of the admissibility of saccharin as an article of human diet remains yet open. It can be settled only on the ground of further careful and prolonged experiments, elucidating the influence produced by the ingestion of the substance on the assimilation and metamorphosis of non-nitrogenous constituents of human food. At all events, an ultimate conclusion requires a considerable caution, since a continuous or habitual depression of the nitrogenous metabolism cannot possibly remain without certain marked consequences for the consumer's organism.

On the Effects of General Hot Sand Baths.—In the Russian popular medicine, hot sand baths have been from time immemorial enjoying a high reputation as a remedial means for various cachectic diseases. Scientific medicine, however, ignores the popular remedy almost completely even now-a-days, when any other baths (similarly borrowed of popular medicine) attract so much attention and study. In fact, the list of contributions to our scientific knowledge of sand baths remains yet exceedingly short, the only contributors being Flemming, Suchard, Evsëënko (*vide* the *London Medical Record*, January, 1884, p. 11), Bertenson and Voronikhin, and Bëlakovsky. In view of the paucity of the literature of the subject, Dr. Nikolai V. Parïinsky, of Evpatoria (*Vratch*, No. 37, 1889, p. 809), has quite recently undertaken researches experimental concerning the physiological and therapeutic action of general natural hot sand baths. The experiments (referring to twenty-five soldiers suffering from various rheumatic affections) were conducted on the sloping coast of the Black Sea, in sunny and still summer days. On each occasion, about 10 a.m., dry sand was heaped up in the shape of small-sized mounds, just sufficient to each admit a human body. As a rule, in an hour or so the upper layers of such sand heaps became warmed up to from 42° to 44° Reaum., and the deeper ones up to from 32° to 38°. The sand was then thoroughly blended, to give a medium having the temperature of 38° R., after which the patient (stripped to the skin, of course) was laid down, and covered from his feet up to his neck with an even sand layer, about ten or fifteen centimetres thick. The bath usually lasted about half an hour, and was followed by a tepid water bath (just to wash out the body). The principal corollaries drawn by Dr. Parïinsky from his interesting observations (103 in number) may be summarised thus:

1. Under the influence of a sand bath at 38° R., the patient's axillary temperature invariably rises. The elevation oscillates between 0.1° and and 1.3° C., amounting on an average to 0.53°.

2. About the bath's termination, the pulse usually (in 94.3 per cent. of cases) becomes quicker. The acceleration varies from four to twenty beats per minute, the average being 8.6.

3. The respiration, as a rule (in 86.7 per cent.), also somewhat quickens, the average surplus being 3.4 per minute, the maximal 8.

4. The sand bath gives rise to an intense perspiration, which commences in about five minutes after the patient has been covered with sand. In twenty minutes his body is found to be plastered all over with a wet sand layer as thick as a finger's breadth. The total loss in the body's weight after a bath oscillates between a quarter and four and a quarter (Russian) pounds, amounting on an average to 1.84 (753 grammes).

5. The blood-pressure after a bath rises two or three divisions of Basch's sphygmometer.

6. The cutaneous sensibility (tested by Burg's æsthesiometer) commonly (in 54.6 per cent. of cases) remains unaltered, but fairly frequently (in 38.6 per cent.) increases, while now and then (in 6.8) it decreases.

7. Speaking generally, a sand bath acts like a hot bath of any other kind, differing only from it in quantative regards.

8. Sand baths are tolerated very well, and are liked very much, even by patients suffering from cardiac or vascular disease.

9. In certain cases their use is followed by a very rapid and considerable amelioration of the patient's state.

10. On the whole, they most decidedly deserve an extensive employment for therapeutic purposes.

Ammonia as an Antidote in Cocaine Poisoning.—Dr. Agafon J. Golovkoff, of Tiflis, relates (*Proceedings of the Caucasian Medical Society*, 1889, Sept. 13th, p. 206) the following interesting case of poisoning by cocaine, which, apparently, points out that ammonia affords a good antidote for the alkaloid. A delicate and nervous lady, suffering from agonising toothache (caused by caries of a wisdom tooth), was

treated by the hypodermic injection of a 2 per cent. solution of hydrochlorate of cocaine, a (Pravaz) syringeful at a time. The first injection was tolerated, seemingly quite well, but a second (four and a half hours after the former) was followed in five minutes by the appearance of general restlessness and excitement, dilatation of pupils, pallor of the integuments, intermittent and accelerated pulse (120 per minute), dyspnœa, and rigors. In another five minutes the frequency of the pulse rose to 200 per minute, and that of the respiration to 60, while the cardiac sounds assumed a "metallic character," and became audible at the distance of two paces from the patient. There appeared intense cardiac pain, backache (especially severe about the loins), fear of impending death, and convulsion of all the four extremities. Amyl nitrite was at first tried (in the shape of inhalations, two drops from a handkerchief), but was at once discontinued, since it still further increased dyspnœa, cardiac pain, and frequency of the pulse. Liquor ammoniæ causticæ happening to be at hand, the author commenced to administer it both internally—four or five drops every five or ten minutes—and in the shape of inhalations. In half an hour all urgent symptoms subsided. By the end of two and a half hours there remained only general weakness and lassitude with some epigastric pain [the latter probably from a liberal use of ammonia?—*Reporter*] which disappeared in about two days. The toothache continued unabated for a fortnight.

[Ammonia internally, together with ether, brandy, black coffee, and other means, was also successfully employed in a case of cocaine poisoning, reported by Dr. Gooding in the *Lancet*, February 15th, 1888, p. 394.—*Reporter.*]

Sea-Sand Baths in Rachitis and Rheumatism.—According to Dr. Vasily G. Sürovtzeff, of Ekaterinodar (*Proceedings of the Arkhangelsk Medical Society*, 1889, vol. i., p. 39), the peasantry and generally "common people" inhabiting the coasts of the White Sea use to treat rachitis by means of hot sea-sand baths, which are arranged in two ways: either the sand is previously dried and duly warmed in a Russian stove (somewhat resembling a baker's oven), after which the child is covered all over with the substance; or the sand is admixed to an ordinary hot-water bath. The same treatment is resorted to by adults in cases of chronic rheumatism. In summer time the patient of the kind is said to go to the sea coast, where he buries himself in sand pleasantly heated by sun-rays, then rubs his body with it, and in conclusion, takes a bath in the sea to wash off the sand plaster.

V.—PUBLIC HEALTH.

We published in our October issue a full account of the value of Pasteur's method from the pen of Dr. Maguire. We now present two papers on the other side, one contributed to the *Medical Record*, New York, the other by Dr. Lancereaux.

Anti-Rabic Inoculations an Unscientific Method in the Prevention of Hydrophobia. By Joseph Drzewiecki, M.D. (Ordinary Physician in the University Clinic of the Holy Ghost Hospital, Warsaw, Poland).—The question as to the efficiency of Pasteur's method of prevention of hydrophobia has been subjected to considerable criticism, and from time to time voices of scientific men have been heard in opposition, the greatest objections coming from Frisch, Ullman, and Peter. Although Pasteur replied to Frisch's objections, yet his answer was very feeble and unsatisfactory. From Pasteur's whole defence, the most characteristic argument is addressed to Professor Peter, *i.e.*, that he cannot dispute with incompetent persons, as Peter had never made experiments. The *France Médicale*, July 7th, 1888, noticing this fact, remarked that with similar arguments it was difficult to convince anybody, and that now we live in a strange time when the chemist—experimentator, and not the physician—categorically accuses the professor and clinicist as incompetent in justifying the therapeutic methods. The only argument which Pasteur always states in favour of his method is the statistics of inoculations. However, as we shall show further on, it cannot be considered as scientific, and therefore it cannot be seriously treated. The editor of the *Journal de Médecine de Paris* showed upon what a weak basis Pasteur supported his statistics, and if they were seriously treated we should receive a greater percentage of mortality.

The English Commission had personally inquired into 90 cases treated by M. Pasteur, but only 24 of these were said to have been bitten by undoubtedly rabid dogs, so that the 8 fatal in this number were far in excess of the usual proportion of fatalities in cases of bites of rabid dogs—viz., 5 per cent. The report had reckoned that of the 2,682 cases treated at the Pasteur Institute, the mortality should have been 130 instead of 40; but it ought to have been stated that only 233 of the cases were found to have been bitten by rabid animals, which would have given a mortality of only 15 if untreated. M. Lutaud contended that the Pasteurian method had increased the mortality instead of diminishing it. Before its adoption the annual average mortality in France was 30. The actual mortality in France during 1886 was 42, of which 25 had been treated by Pasteur.[1]

As Pasteur defends his method by statistics, let us cite other statistics. Dr. Kishensky[2] states cases, selected from the archives of the Katharine Hospital in Moscow. The whole number of cases amounted to 693, and from this number, excluding cases bitten by other animals, 591 were bitten by mad dogs, and there died only 8, or 1.35 per cent. But the author asserts that in this manner statistics cannot be treated, because about many of the cases it was not known whether they had been bitten by rabid dogs, and therefore omits all such cases, and gives only those about which there was no doubt of their having been bitten by unquestionably rabid dogs. Some of them remain in the hospital under medical observation during at least six weeks, but the greater part of them three months and longer.

According to these statistics it is shown that out of 307 persons bitten by unquestionably rabid dogs, 18 were bitten in the head, 90 in the hands, 25 in the feet, 170 in places covered with clothes, and 4 in places not indicated. Of 18 bitten in the head 4 died, or 22.2 per cent.; of 90 bitten in the hands, 2 died, or 2.2 per cent.; of 25 bitten in the feet, no death, and of 170 bitten through the clothes, 1 only died, or 0.59 per cent. If we add to the deaths another, belonging to the 4 about whom it is not known where they were bitten, we have 8 deaths, or 2.6 per cent.

Out of 24 cases severely bitten by rabid wolves, 2 arrived at the hospital with the symptoms of hydrophobia; 5 were in the hospital only during six weeks, 4 of them were discharged in good health, and 1, very severely bitten, died of septicæmia. The remaining 17 cases were under observation during eight weeks. Of this number 11 were bitten in the head, 3 in the hands, and 3 in places not indicated; 5 of them died, showing a mortality of 30 per cent., but, according to Pasteur, it is 82 per cent. All those who died had extensive wounds on the head. The author concludes that a greater number of persons died from the bite of wolves than from that of dogs, because the wounds of the former are larger and more numerous. Of 18 cases bitten by rabid cats only 3 died. Of 17 cases bitten by rabid horses, 9 were in the hospital during three months, and none of them of hydrophobia, but 1 died of erysipelas and another of septicæmia. Of 4 bitten by a rabid dog, none fell ill. To this number we must add 4 cases bitten by rabid men, 1 by a white bear, and 1 by a rabid squirrel. Thus the whole number bitten by rabid animals—396—there died 18, or 4.52 per cent.

If we now consider that in Pasteur's statistics are included many cases unproved,[3] and if to this we add the cases given by Professor Peter, of which one died, as Peter asserts, in consequence of the antirabic intensive inoculations, and another died from rabies two years and three months after the antirabic treatment, we arrive at the conviction that the Pasteurian method has no value. In order to accept the method of preventive inoculations as valuable, it is necessary to prove that it prevents the development of hydrophobia in men. Pasteur only proved that his method prevents the development of rabies in dogs. Still, the experiments made in this direction by Dr. Frisch do not demonstrate the value of the inoculations, and Pasteur explains the unsuccessful results of Frisch by the fact that the latter transferred the experiments from dogs to rabbits. But if it is erroneous to transfer the experiments from dogs to rabbits, it is still more so to transfer them to men, as Pasteur does. Until now he has not yet proved that the inoculations prevent hydrophobia in men. The whole series of fatal cases treated in his Institute prove just the contrary.

1. On April 1st of last year a soldier of the name of Marinot, inoculated at the Pasteur Institute, died from rabies at Val-de-Grace.

2. On May 16th, a yonng man (Poulet), æt. twenty, died at the Hôtel Dieu Hospital from rabies. He had been bitten by a mad dog on December 6, 1887, and was treated at the Pasteut Institute from December 8, 1887, to January 6, 1888.[4]

3. O—— died from rabies, bitten on April 23rd, and inoculated from April 26th to May 12th last year.[5]

4. On August 8th, a young man named Guers, æt. twenty-two, died at the Neckar Hospital at Paris from convulsive rabies. He had

[1] *Vide Lancet*, July 30, 1887, p. 237.

[2] *Vratch*, Nos. 44 and 45, 1887.

[3] *France Médicale* and *Union Médicale* (January 6, 1887) published a letter of Dr. Ziegel, in which he writes that ten soldiers bitten by a dog, suspected to be mad, were sent for treatment to Pasteur. After their return to Wilna, they found the dog that had bitten them in a perfect state of health, and five months afterward the soldiers and the dog were quite well.

[4] *Semaine Médicale*, July 4, 1888.

[5] *Ibid.*, July 25, 1888.

been bitten by a mad dog on July 13th, and was treated at the Pasteur Institute from the 16th.[6]

5. On June 20th, a child (Bertin), eighteen months old, died from rabies at Gentilly (Seine). The child, who had been bitten on May 15th, was inoculated at the Pasteur Institute on the 17th, and the treatment was continued for twenty-four days. The first symptoms became manifest about the eighth day after the completion of the treatment by antirabic inoculations.[7]

6. On July 23rd, a man, æt. twenty-eight, died of rabies at the Hôtel Dieu of St. Etienne. He had been bitten by a rabid cat on June 16th, aud was treated at the Pasteur Institute from June 20th to July 7th.

7. A child, at Marseilles, thirty-one months old, who was bitten on May 9th by a rabid dog, and treated at the Pasteur Institute from May 14th to June 9th, died from rabies on June 23rd.

8. An inhabitant of Chatenay, æt. forty-four, who was bitten on March 25th by a rabid cat, and treated at the Pasteur Institute from March 26th to April 12th, died from rabies on July 30th.

9. Madame Sarazin, of Saint-Maurice, in Switzerland, æt. forty-four, who was bitten on July 1st by a mad dog, and treated at the Pasteur Institute from the 4th of the same month, died from rabies at the Hôpital Broussais, in Paris, on August 4th.[8]

10. C. W. Dean described a fatal case in a boy, five years of age, bitten by a mad dog, who had been treated at the Pasteur Institute, and discharged as recovered.[9]

11. At a meeting of the Academy of Medicine in Paris, on January 4th, 1888, Professor Peter communicated a case, observed by Dr. Miquel concerning a certain Révaillac, twenty years of age, bitten by a dog considered mad by a veterinary surgeon; the dog was killed the next day. The place of the bite was cauterized, and forty-eight hours after the bite had taken place the patient came to the Pasteur Institute. During twelve days injections were made three times a day in the hypochondrium. On December 12th, 1887, the patient commenced to feel a great pain in the place of the injections and not in the place of the bite. In a short time general debility followed. The next day he was apathetic and dejected, and four days afterward died with foam on his lips. The day before his death he had convulsions and difficulty in swallowing. Death followed six weeks from the day of the bite.

12. In the *Semaine Médicale*,[10] Professor Peter, speaking about microbes and alkaloids, states that Berger died six months, and Sinardot died two years and three months, after injections at the Institute.

Here we have some of the unsuccessful results of the Pasteurian treatment, selected from the literature of last year. Pasteur himself, knowing well the insufficiency of the inoculations, found it advisable to take a certain precaution, namely, that his method cures only such cases where the bite is not deep and not on the head. What is the good of such a precaution? Is it not evident that the inoculations help at that time when the virus has not entered into the blood, and are inefficacious if the virus has been introduced?

I cannot understand why Pasteur's method is unsuccessful in cases where bites by rabid animals are large and deep, especially in the face. If the virus acts through the nerves, the least scratch must allow the contact of the virus with the nerves, in which the skin abounds; at last the circulation permits the virus to come in contact with all tissues. Every new method deserves our attention as long as it shows itself efficacious in serious cases which cannot be cured by other methods. Meanwhile, the Pasteurian method includes only slight and doubtful cases, and excludes the serious; in one word, it cures those cases which probably would recover without any inoculations.

Finally, Pasteur asserts that the inoculations weaken the virus introduced by the bite of a rabid animal, *i.e.*, accustom the organism to the virus, no matter whether the unfortunate persons treated by him have or not very violent symptoms of rabies. If the inoculations harden the organism against the virus, then the symptoms of rabies should be very mild, as it is evident in small-pox. In what way, I ask, does Pasteur see the preventive properties of the inoculations? His method neither prevents rabies, nor does it weaken its symptoms.

If we consider the above, and add to it the cases given by Professor Peter, out of which the first died, probably from intensive inoculations, the second in six months, and the third died from rabies two years and three months after the Pasteurian treatment, we must acknowledge that this method can only be of value for veterinary surgeons, but being transferred to men, it is unscientific, and as such must be condemned in the interest of humanity and science.

[6] *Semaine Médicale*, August 22, 1888.
[7] *Ibid.*, August 29, 1888.
[8] *Semaine Médicale*, quoted by *Lancet*, September 15, 1888, p. 547.
[9] *Lancet*, June 16, 1888.
[10] Novmber 21, 1888.

I must still mention that the experiments made by Professor Roch, and M. Schutz, professor of the Veterinary School of Berlin, have shown that the mortality from charbon is sensibly the same in vaccinated and unvaccinated animals, and the practice has been nearly entirely abandoned; and, therefore, this Pasteurian method also, which made a great noise in the world and was accepted with enthusiasm, has been proved to be false.

Case of Hydrophobia occurring in a patient previously Inoculated by M. Pasteur, with observations by M. Lancereaux upon the Failure of the Anti-Rabic Treatment (*Journal de Médecine de Paris*, November 10th, 1889).—M. Lancereaux, under whose care the deceased had been, communicated the case, with his observations thereon, to the Council of Public Hygiene and Health of the Seine. At the conclusion of this communication, the President (M. Pasteur being present) enquired if anyone desired to continue the discussion. M. Pasteur remained silent. It should, however, M. Lancereaux observes, be made known how it is that the case and comments have been excluded from the *Bulletin du Conseil d' Hygiene!* The *Semaine Médicale* has sufficient independence to publish the interesting facts observed by M. Lancereaux in the following case:

On the 14th July, 1889, a boy, æt. thirteen years, died in the Hospital la Pitié, having been bitten in the leg by a dog on the 23rd May. This child was under treatment at the Pasteur Institute from the 25th May to the 10th June, the wound having been washed and cleansed by Dr. Vergrade, with the Van Swieten's solution, within an hour of the accident. At the same time, a youth, æt. seventeen years, residing in the same house, was bitten by the same dog, causing two superficial wounds on the thigh. These were cauterised by M. Vergrade by means of a thermo-cautery, a few minutes after their infliction, and like the preceding case, was submitted to Pasteur's anti-rabic treatment. He continues in a healthy state. Another child, æt. six years, was bitten through his shoe. The wound was washed with a solution of phenic acid, and on the 25th May he was taken to Pasteur's laboratory. He continues well. The following are the comments of M. Laucereaux upon these three cases:

"It is necessary, in the first place, to inquire into the differences in the termination of the three cases, otherwise it would be difficult to explain the facts. The survivors, it may be said, have been cured—the one because the wound was cauterised by hot iron soon after the bite, the other because he was bitten through his shoe. The death of the third is explained by the bite having been deep, and not cauterised. Considering the circumstances of these three patients, the interpretation of the facts is difficult. We must, however, take into account a new element—the treatment instituted by M. Pasteur; but if this treatment has cured two out of the three of those bitten, why did the third die? This is the question which really must be put. In other words, if the treatment cures hydrophobia, why not cure it always? This question will doubtless be answered some day, but it has not yet been replied to. I know that, relying upon statistics, M. Pasteur urges that the mortality from hydrophobia has diminished since the introduction of his method, but the statistics here compared have only a relative value. Are statistics admitted as proof in matters of scientific observation and experiment to which medicine belongs? Certainly not. Statistics, according to the celebrated Claude Bernard, cannot furnish scientific truth, and consequently, cannot yield a scientific method. Chemists do not appeal to statistics when they would prove a fact. The reactionary phenomena upon which they operate in determinate conditions are always identical; if not, they address themselves to discover the reason. It cannot be otherwise in medicine and therapeutics. Can we discover in the circumstances related the reason of the therapeutic success in one case, and its failure in another? We know that the patient who died had not been cauterised on the receipt of the wound, but this cannot be the explanation, since another child, bitten by the same dog and not cauterised, continued in good health. In every case it must be by discovering the cause of failure, and not by statistics, that the prevention method must ultimately be judged.

To sum up—three young subjects had been bitten by the same mad dog—one through the leather of the shoe, the second was immediately cauterised; both were inoculated, and did not become rabid. The third was bitten severely, but not cauterised; was inoculated, but became rabid. The Pasteur inoculations are thus shown to have been useless in these three cases; they had not protected from rabies those who were in the conditions said to be protective, and they have not saved from rabies the only one who had been subjected to the measures adapted thereto. Inefficacious as they were in these instances, might they not have proved 'rabific,' as in the case of the unfortunate letter-carrier, Rascol?" (*Journal de Médecine*, October 13th, 1889).

The Singular Poisoning Cases at Leeds.—On Wednesday afternoon, November 13th, two men were discovered in their cabin, at the Leeds Forge Company, Limited, in what was supposed to be a

state of lethargy, but on medical assistance being procured, they were pronounced quite dead. No marks of violence were found upon them, and there appeared to be nothing in the surrounding circumstances of the case to account for their decease together. Acting under instructions from the Leeds Borough Coroner (Mr. J. C. Malcolm), Mr. Scattergood and Mr. Hargreaves, surgeons, proceeded to the Forge to a *post-mortem* examination of the bodies, which had been laid out in a building known as the band-room. Two other surgeons—Mr. W. H. Brown and Mr. A. K. Scattergood—also attended, the former representing the relatives of the deceased. At the request of the solicitors engaged by the different parties who are interested in the result of the inquiry, the Coroner gave his sanction to the attendance of several other surgeons, and Mr. Jessop represented the Leeds Forge Company; Mr. W. H. Brown, who had attended one of the deceased men as his medical adviser, was present on behalf of the relatives of both the deceased; and Mr. J. S. Loe watched the examination on behalf of the Boiler Makers' Association, of which French and Tennick were members, and in which they were insured. The medical gentlemen first made notes as to the outward appearances of the two bodies, and just as Mr. Arthur Scattergood was about to cut open the chest of one of the bodies, he sank down unconscious. The other surgeons left their work to go to his assistance, and while they were attending to him several of them began to feel peculiar symptoms. Finding they were in danger, they lifted Mr. A. Scattergood and proceeded to carry him from the room. At the door Mr. Loe fell down in an unconscious condition. Mr. Spray was also seriously affected, and Mr. T. Scattergood felt a strange twitching about his breast and a swimming sensation in his head, as if he were about to faint. Mr. Arthur Scattergood was carried into an office adjoining the band-room, and there he partially recovered consciousness, but had a second attack, apparently of convulsions. The ambulance was then telephoned for, and he was removed to the house of his father in Park-square, but it was not till about half-past one o'clock that he could be considered out of danger. As all the medical gentlemen felt too ill to proceed with the *post-mortem* examination, and as there appeared to be danger in doing so, Mr. T. Scattergood sealed up the band-room, and communicated with the Coroner. It was suggested that a tent should be erected in the yard, in which the adjourned examination might be made, and the representatives of the Forge Company readily undertook to carry out that arrangement.

After hearing the report from Mr. Scattergood as to the jeopardy in which the medical gentlemen had been placed, and considering that there was a great public question raised as to the use of water-gas, the Coroner thought it his duty to lay the matter before the Home Office authorities; and as there was not time to communicate by letter, Mr. Malcolm proceeded to London on Friday night. On Saturday forenoon he had an interview with the Home Office officials, who called in Dr. Stevenson, of Guy's Hospital, for consultation. The importance of the case was recognised, and Dr. Stevenson was instructed to attend to the analysis; and inasmuch as the delay of the *post-mortem* examination had caused certain difficulties, it was thought advisable that Dr. Stevenson should proceed to Leeds, to attend the examination of the bodies. That gentleman accordingly accompanied Mr. Malcolm to Leeds on Saturday evening. If it should be established that the deaths of the unfortunate men have been caused by water-gas, we understand that the Home Office will then consider what assistance they should give, in connection with the Board of Trade, either at the inquest, or by taking the matter up afterwards, to have a thorough investigation into the question.

The *post-mortem* examination was resumed on Monday morning at ten o'clock, and was concluded about half-past two. All the medical gentlemen named above were present, with the exception of Mr. Arthur Scattergood. In the presence of the Coroner, the band-room was unsealed, and the bodies were removed to the tent, where the examination was conducted without any repetition of the experiences of Friday. Dr. Stevenson removed a portion of the viscera for analysis.

VI.—DISEASES OF WOMEN.

The Management of Abortion (New York Academy of Medicine, *New York Medical Journal*).—Dr. Murray deplored the principles which guided the general practitioner in the management of abortion cases. The result was often disastrous to the woman, for an abortion too frequently ushered in a whole series of uterine troubles—hæmorrhage, salpingitis, barrenness, subinvolution, and so forth. Abortion was always a pathological process. The muscular coats of the uterus were still undeveloped, and contractions were inefficient. The cervix did not relax readily, and involution was but slowly accomplished. Goodell had likened abortion to the plucking of immature fruit. Two symptoms were always present—pain and hæmorrhage. The speaker then went on to describe the symptoms of threatened abortion, in the treatment of which he advocated opium for the pain; extract of viburnum prunifolium would be of benefit, and chloral hydrate or the bromides, given by the mouth, seemed to contribute to the cessation of uterine action. Careful examination should be made to ascertain the exact condition of things, and whether the symptoms were really referred to threatened abortion or to some other cause. The appearance of regular menstruation was possible up to the second month, though not thereafter. If an escape of waters or membrane had taken place, then efforts at prevention should give way to others in the direction of hastening the process of abortion. Thorough and persistent antiseptic precautions should be maintained. The vaginal canal should be tamponned with gauze, well applied around the cervix by means of an applicator, the patient being placed in Sims's posture. If the bleeding was very profuse alum might be used on the first tampon. Tampons were to be preferred to the colpeurynter. If the os was found dilatable, but not dilated, ergot might be given in small doses. When the tampon was removed the os was generally found to be sufficiently dilated to admit of the ovum being reached by the forefinger. It was better to empty the uterus. Examination of the endometrium should be carefully made, and if the membranes were found detachable they should be removed with a placenta forceps. If portions still adhered, the blunt curette of Thomas should be used to remove these fragments.

The operator should not be satisfied until the whole endometrium was freed from projections. The cavity should then be washed out with carbolic-acid solution of the strength of 1 to 100, a reflux catheter being used. The hæmorrhage would cease entirely as soon as the uterus was clear. If the uterus had been depressed during the examination it was most important that it should be raised again. In cases of neglected or of incomplete abortions great care should be exercised. It was important that everything which had been preserved should be examined. If the membranes had not been made away with they should be approximated to determine their entirety. Examination should be made of the cervix and the endometrium should be explored. When the speaker was able to see what had been passed and it seemed complete, he simply ordered antiseptic vaginal washes with antiseptic dressings to the vulva, and made careful inspection of the cloths removed each day, watching also for any local abdominal tenderness or rise of temperature. In neglected cases where the patient showed evidences of septic trouble all authorities agreed that the cervical canal, if closed, should be dilated, the cavity thoroughly washed out, and the curette used. The general septic symptoms should be combated by the administration of alcohol, quinine, and generous food. It was said that the galvanic and faradaic currents possessed a certain antiseptic action, but the speaker had had no experience with the method. He did not favour the use of the brush as advocated by certain French obstetricians, but thought the blunt curette would be found to answer all requirements. Subinvolution might be averted by the judicious use of ergot. Abortion and miscarriage were fertile sources of a train of supervening uterine troubles, and the proportion dying from septic complications after miscarriages was greater than that of the deaths by sepsis after labour at term.

Dr. A. F. Currier thought that the method of treatment in abortion cases was one which had reached something like exactness. This was largely due to the advances made in the use of antiseptics. He was glad that such stress had been laid on the value of the blunt curette in diagnosticating the condition of the endometrium after the expulsion of the fœtus. It was much more reliable and more easily used than the forefinger. It was his rule to apply pure carbolic acid over the entire mucous membrane of the uterine canal, so that anything missed by the curette might be reached by the acid. He obtained good results from this method. There might be conditions, as, for instance, after prolonged and profuse hæmorrhage, when interference at the time would be contra-indicated, in proof of which he cited a case from his own practice. Dr. Murray had spoken of tamponing the vagina, but had not mentioned including the uterus. The speaker, however, advocated this plan, and believed it facilitated the expulsion of the fœtus.

Dr. Paul F. Mundé said that in 1883 he had written a paper advocating the immediate removal of the secundines after abortion. This article had elicited a great deal of criticism because of the very positive views which it contained. Whenever he had to deal with a case in which abortion was imminent and unavoidable he would endeavour to save the woman loss of blood, and at the same time would hasten dilatation of the os by tamponing the vagina with iodoform gauze. This might be removed in twenty-four hours and replaced if required. Sometimes it might be necessary to dilate the external os. For this purpose tupelo tents could be used, two or three of which might be introduced, though it was now easy to get them large enough to allow of the introduction of one or two fingers after dilatation. When the

canal was sufficiently wide to admit of the procedure he would introduce his finger and remove the contents of the uterine cavity as thoroughly as practicable. He would endeavour to keep the ovum intact if the membranes had not already ruptured. He much preferred to empty the uterine cavity at one sitting whenever this was at all practicable. The class of cases for which he was usually called in consultation was that in which hæmorrhage, chill, and high temperature had already occurred. He generally found the canal sufficiently widely dilated to allow of the introduction of a finger, and even if this were not the case it was not difficult to open it. The finger once passed into the uterine cavity, the rest was easy, requiring only care and persistence in clearing it of its contents. He had always advocated this course, and it was still his firm conviction that a woman who retained within her uterine cavity any portion of a ruptured ovum was in danger of two accidents —first, hæmorrhage, severe and sometimes fatal; and, second, septicæmia. To those who urged the most extensive experience of cases in which the retained portions of the ovum or secundines had been allowed to take care of themselves he would say that, in spite of this experience, those gentlemen would surely some day come to grief. Nature would do a great deal, but it was not wise to let nature handle these cases too long. He differed with the last speaker, who thought that the curette was better than the finger. With an instrument it was impossible to determine that the cavity was really empty. He preferred to give the patient a little chloroform, and then, passing the exploring finger up to the fundus uteri and compressing the abdominal wall with the disengaged hand, he could determine accurately the condition of the cavity. Then a curette might be introduced and everything cleared away, when the finger should again be introduced. If it was ascertained that the work had been thoroughly done, then the patient might be deemed practically safe. He had yet to meet with a case in which he could regret having conscientiously followed out this plan. He would never use more force than was justifiable, and would always be careful not to subject his patient to an injury more severe than that of leaving the uterus alone. The steps he had indicated were such as he always followed, unless the contra-indications were urgent and obvious—for instance, when the woman was very low and where temporising was the only safe thing to do until she could bear interference. The speaker then described the various curettes and placental forceps which he found most useful, and went on to say that as soon as the uterine cavity was thoroughly clear he introduced a double-current catheter and passed in a stream of hot two-per-cent. carbolised water. He never introduced corrosive sublimate within the uterine cavity. He had always feared toxic absorption from its use. After the cavity was washed out the uterus invariably contracted, and there would be no further occasion for any local treatment, except perhaps in a few cases an uterine injection for a few days. He wished to be understood as saying that he was not at all afraid of criticism on this subject. He was constantly reading in the journals about letting nature take care of these cases. He deemed it far wiser to give nature all the assistance possible in this particular. It had been urged that the procedure was unsafe at the hands of inexperienced men. If the practice was admitted to be sound in theory, then it was imperative that the inexperienced men should acquaint themselves with the requirements, and it was for such purposes that post-graduate schools were instituted. When it was necessary to induce abortion, as in cases of uncontrollable vomiting or fibroid in the pelvis, he found it best to introduce tupelo tents frequently, until the os would allow the finger to pass, and then, when the uterine canal was thoroughly dilated, the ovum might be gently detached by sweeping around the fundus uteri with a blunt curette, when it could generally be removed almost entire.

Dr. Fry, of Washington, was then asked to speak in reference to the use of electricity in the class of cases under consideration. He said that its use was not indicated in imminent abortion, but rather in neglected cases where the fragments of placental tissue remained in the uterus and produced hæmorrhage or septic symptoms. The faradaic current was to be used only during contractions with a view to increasing them. He did not think this current capable of inducing them. He had used the galvanic current for its coagulating effect. The positive pole was considered antiseptic as it eliminated oxygen and chlorine. The latter was frequently given off in such quantities that it might be detected by its odour. He had been conducting some experiments as to the chemical effects of the electric current upon micro-organisms, but at present he was not able to give any results, as there had been some inaccuracy in the technique incident to the initial observations.

Dr. H. J. Boldt thought the subject of abortion was very well understood theoretically but not practically. It was his experience to be called to cases where the first principles of antiseptic precautions had generally been entirely ignored or neglected. He thought a 3 per cent. solution of carbolic acid hardly strong enough to use as an antiseptic, and the solution itself not so good as the bichloride. He never failed to make use of the finger for purposes of examination, and he urged it as a plan to be adopted in every instance. He, however, deprecated the employment of too much force where portions of the uterine contents still remained closely adherent. So long as they were not disintegrated and remained attached, he thought it unnecessary to interfere with them, as they would be dislodged in the course of time.

The discussion then became general, and was closed by some brief comments by the author of the paper.

A Successful Case of Laparotomy and Supravaginal Amputation of the Uterus for Rupture.—Dr. Henry C. Coe read a paper with this title. On September 8th, at 1 p.m., he was called to a desperate case of labour to perform Cæsarean section. The patient was a healthy Irishwoman, twenty-three years of age, with a rapid, feeble pulse, and evidently in a state of collapse. The gentleman in attendance had feared that rupture of the uterus had taken place two hours before. Examination of the abdomen revealed two tumours—a larger one filling the right side of the abdomen and extending as high as the ensiform cartilage, and a smaller one occupying the left iliac fossa —both firm and unyielding. It was evident that the former was the body of the uterus tilted over to the right and in a state of tetanic contraction, and the latter the head of the child. Palpation of the abdomen above the latter gave an ominous gurgling sound suggestive of free fluid in the peritoneal cavity. Prolonged attempts had been made to extract the child by forceps and version. With the introduction of the hand into the vagina the discovery of laceration of the anterior lip of the cervix antero-posteriorly and a laceration through the vaginal junction on the left side was made. The finger, passed through the rent, entered the abdominal cavity. The child, which was unusually large, was dead, presented in the left dorso-anterior position with the right hand and foot prolapsed, and was firmly impacted, the head seeming to be partly outside the uterus. Believing that a further attempt at version would only extend the tear, he at once decided that laparotomy offered the best chance of saving the woman. The patient's condition was desperate, and the surroundings were such that any approach to antisepsis would be impossible. She lost a large amount of blood, and her pulse was so feeble that hypodermic stimulation with brandy and ether was resorted to. A free incision, eight inches in length, was made through a very fat abdominal wall and into the peritoneal cavity, which contained a quantity of fluid blood and clots. A rent was found extending upward from the cervix through the left broad ligament half way to the fundus. The head of the child lay in the left iliac fossa outside of the uterus, being grasped by the edges of the tear. It was at once seen that this would not be a case for suturing the uterus, as arterial hæmorrhage was going on from the vessels of the lacerated broad ligament. As no time could be lost, the uterus was turned out of the cavity, the cervix constricted by a piece of rubber tubing cut from a fountain syringe, the écraseur having been forgotton in the haste, and the child extracted through the tear. Without waiting to remove the placenta, the tubing being secured with an artery forceps, the uterus was excised, together with the ovaries and tubes, and all bleeding vessels were tied. This part of the operation was completed in twelve minutes. The utero-sacral ligament on the right side had been also badly lacerated. After securing the vessels and sewing the torn peritonæum with a continuous catgut suture, the peritoneal cavity was thoroughly irrigated with hot water and the stump secured in the wound with knitting-kneedles. No drainage-tube was used. The bladder was examined and found apparently uninjured. The cervix had been so badly torn that it was subsequently sloughed out. The patient rallied well, but had a pulse of 140 to 150, and no hopes had been entertained of her recovery. From the outset she was free from nausea and able to take stimulants. On the second day her temperature had risen to 102° to 103° F., and there were general abdominal tenderness and distension, but, by maintaining free catharsis and using the ice-bag, peritonitis was aborted. The urine was drawn for the first four or five days. The stump quickly necrosed; and on the fourth day the tubing was replaced by a Kœberlé's serre-nœud. The entire mass was removed by the end of a week, and the cavity packed with iodoform gauze. The patient had taken nourishment and stimulents freely, but her pulse had remained at 120, and her temperature had risen every evening to 101° to 102° F. At one time an exhausting diarrhœa had threatened her life. She complained of no pain, but suppuration of the hæmatocele which had formed in the left broad ligament was feared. Early in the second week the urine began to escape *per vaginam*, although the patient could retain it to some extent. A careful examination with the finger and speculum showed that a cervico-vesico-vaginal fistula had been established, and that there was considerable sloughing of the upper portion of the vagina. All the necrosed tissue at the bottom of the abdominal wound was picked away, until nothing remained of the cervix but the portio vaginalis. The wound granulated satisfactorily, but there was a free communication with the vagina through which

urine and the douche water sometimes welled up. She was allowed to get up at the end of the fourth week. The fistula was still patent, as the urine still dribbled away, but not so freely as at first. At the end of the fifth week the abdominal wound has entirely closed. It was hardly necessary to add that the after-treatment of such a serious case in a dirty tenement-house had required constant vigilance or the patient would certainly have succumbed to the operation or the subsequent complications. Before commenting on the case it was important to classify it. Dr. Robert Harris, of Philadelphia, had clearly pointed out that it was neither a Porro nor a Cæsarean section proper, but an operation *sui generis*. Prevôt, of Moscow, had reported the first case, an unsuccessful one, in which the ruptured uterus had been excised after removal of the child through the rent without previously incising the organ. There had been ten true Porro-Cæsarean sections for rupture of the uterus in this country, four of the women having been saved. Dr. M. Price had reported a case in which an operation very similar to the speaker's had been performed last April, but with a fatal result. In conclusion, the speaker said that, given the same conditions, he would adopt precisely the same method of procedure in another case of rupture of the uterus, because he believed that it offered the best chance of saving the patient, for the following reasons: 1. That this operation could be performed in the shortest possible time. 2. That it was impossible to properly suture such an extensive rent, with contused edges, as the one described. There was also imminent risk of hæmorrhage after removal of the temporary constriction. 3. Where prolonged use of instruments without antiseptic precautions had occurred, the interior of the uterus was sure to be so badly contused that subsequent danger of sepsis was great. The additional shock to the patient from removal of the lacerated uterus was preferable to the exposure of septicæmia, which would certainly follow by leaving it. 4. The objection made by Dr. Harris that a cervix split by laceration could not be very well fitted for constriction, as the part below the wire might discharge septic matter into the abdominal cavity through the rent, was a good one. But the writer thought, if the tear in the peritonæum was carefully closed and the stump properly constricted and shut off from the peritoneal cavity, that there was less danger than in trusting to the suture alone without constriction. Finally, with due respect for the opinion of such a weighty authority as Dr. Harris, who believed that it "would hardly be admissible" to subject a woman with a normal pelvis to "the unsexing operation of removing the lacerated uterus with the ovaries, as was done by Prevôt," it should be borne in mind that the surgeon was sometimes called upon to do so, and to do at once, what he believed was the best thing for the patient without regard to established precedent or even to the ordinary rules of surgery.

Carcinoma of the Uterus and Ovary.—Dr. A. Palmer Dudley read a paper with this title, and presented some pathological specimens. He said the growth had been removed from a patient fifty-one years of age, of Irish birth, whose occupation had been that of a domestic servant. Her family history was good. She had been married twenty-eight years, and was now a widow. She had borne two children and had suffered one miscarriage since, due, she had said, to lifting a heavy weight. She had been operated upon several years before for some form of uterine trouble; just what it had been could not be learned. From that operation up to within three years she had been perfectly well. The patient had said that within the last three years, the exact time she could not remember, some sort of tumour had broken in the pelvis, and that a large amount of blood had come away. This had been followed by repeated floodings which generally had yielded to treatment. She was admitted to Randall's Island Hospital on November 13th, 1888, into the service of Dr. McLean. Digital examination showed the uterus to be large and the os patulous. Quite a large tumour of firm consistence, probably fibroid, was found to lie above and to the right of uterus; the growth moved with the uterus. A curette was used and a large amount of villous tissue removed, which had the appearance of a cast of the uterine mucous membrane. The speaker could not learn whether there had been a microscopical examination of this tissue. The possibility of malignancy had been noted and recorded in the history book. The hospital service had changed and she had come under the speaker's care on February 1st, 1889. He proposed to operate for removal of the growth, but the patient would not entertain the idea, and left the hospital February 3rd. She had not been seen again until September 23rd, when she reappeared at the hospital and begged for the operation for her relief. During her absence she had suffered from repeated hæmorrhage. Further examination revealed an increase in the growth to the right of uterus, but the latter seemed to have remained of about the same size. The passage of the finger through the external os revealed a growth presenting, which had the feel of submucous fibroid. There was no odour about the parts that were unnatural. Pain was absent, there was no cachexia, and, in fact, there were no objective symptoms of malignant disease. The speaker made a diagnosis of subperitoneal and submucous fibroid, and proposed suprapubic hysterectomy, as the growth was too large to remove *per vaginam*. On October 4th, 1889, he performed a modification of Schroder and Bantock's operation, which he had designated previously as the intrapelvic, but extraperitoneal, method of treating the stump in hysterectomy. After the uterus and such of the structures as had been involved by the morbid growth, including the vermiform appendix, had been removed, the mass was submitted to a pathologist for microscopical examination, and a diagnosis returned of epithelioma of both uterus and ovary.

Dr. Coe, by means of a black-board illustration, depicted the steps of the operation he had performed, demonstrating thereby the all-important factor that the completed closure of the various incisions left no ligatures in the pelvic cavity, that if pus formed it would be outside the cavity of the pelvis, and that perfect drainage could be effected through the os uteri externum.

Ectopic Gestation (*Medical Journal*, New York).—At a meeting of the Philadelphia County Medical Society, held on October 23rd, Dr. Mordecai Price read the following paper:—In bringing to the notice of this society the much-discussed subject of ectopic gestation, my hope is not so much to advance anything new as to make plain our duty and manner of procedure in these desperate conditions. Bernutz and Goupil, of France, and Parry, of our own country, did much to advance our knowledge on this subject, but it remained for Mr. Hallwright to bring it forcibly to Mr. Tait's notice in one of his patients, in whom he had diagnosticated ectopic gestation, and urged operation. "The suggestion staggered me," says Mr. Tait, "and I am ashamed to have to say I did not receive it favourably." A second hæmorrhage killed the patient. A *post-mortem* examination revealed the fact to this great leader in abdominal surgery that Mr. Hallwright was correct in his conclusion, and that the patient could have been saved. An opportunity was soon offered in Dr. Dolan's, of Halifax. Dr. Dolan had also diagnosticated ectopic gestation, and given as his opinion to the husband that nothing but an operation would save the patient's life. He telegraphed for Mr. Tait, who not only agreed with him, but had the requisite daring to operate, to save the patient, and revolutionise the whole treatment of extra-uterine pregnancy. I leave it to you, gentlemen, to judge to whom the greater amount of credit is due to the practitioner who urged it, or to the illustrious surgeon who performed it.

A pregnancy, as we all know, should be within the uterine cavity, and the only other place is primarily in the tube. That this condition may be possible, the tube must be diseased, its lining membrane removed, its ciliated epithelium no longer urging the product of conception onward to its natural abiding place nor retarding in the least the spermatozoa from intruding on dangerous and forbidden ground. This condition is brought about, I believe, in 50 per cent. of the cases by gonorrhœa, and in the remainder by cold, septic conditions following childbed, and catarrhal affections from other causes. That the pregnancy in the beginning is always tubal, I think is well proved, from the fact that the tube is the only portion outside the uterine cavity offering the conditions favourable for impregnation. The product of conception thrown into the peritoneal cavity either at the time of inpregnation or during the first few weeks of gestation would undoubtedly be digested. We have the best proof of this in the fact that in early ruptures into the peritoneum of only a few weeks no fœtus can be found; only the blood clot, the diseased tube, and membrane remaining. Those cases that have advanced to maturity in the peritoneal cavity have, without doubt, been those first developed in the tube, and then ruptured into the broad ligament, and, when able to resist the digestive fluids of the peritonæum, the secondary rupture has taken place.

We may pass over the other forms of so-called ectopic gestation, for, if they ever occur, it is so rarely that they do not deserve our consideration. Tubal pregnancy would be of but little moment to us if it were not for the fact that most patients are not aware there is anything wrong. If they suspect pregnancy at all, they have no reason to doubt that it is of the usual old-fashioned kind, and the first warning, alike to patient and doctor, is rupture of the tube, with symptoms of internal hœmorrhage—often so serious that the patient lives but a few hours. These cases are far more numerous than you would suppose - in our city alone, from all sources, about twenty-five a year; and when you remember that five year ago the mortality was 100 per cent., and now at least 90 per cent. are saved, but we have too much to be thankful for to Mr. Tait and his adviser, Mr. Hallwright.

The symptoms of ectopic gestation before ruptured are of a vague and uncertain character. Those best qualified to properly interpret them, whose experience in such conditions has been greater than any other investigators', have yet to see one and recognise it before rupture. The only reported cases said to have been recognised and treated before rupture have been in the hands of our electrical friends and enthusias-

tically dwelt upon, and the man who would treat them with a knife has been given a back seat and denounced in unmeasured terms for his mutilation of the poor woman when it was so easy to get rid of the product of conception by so safe a plan as the electrical current. But we find by investigation that in many of these reported cases there was little foundation for the belief that the women were pregnant. Some of them have fallen into the hands of other men and been operated on, and no pregnancy existed. And I cannot but think the others could not bear investigation requisite to a proper diagnosis.

The symptoms after rupture are sufficiently plain and urgent to warn any earnest medical man of the patient's condition. They are as plain as any other surgical affection and more imperative than most. In a woman who has been sterile for a length of time, it may be for years, whose period has been delayed for two or three weeks or longer, after slight exertion or lifting some heavy object, there occur agonising pelvic pains and collapse, followed by all the symptoms of loss of blood. If the patient reacts, this followed by recurring pain and collapse, constant uterine hæmorrage, it may be with small loss of blood, discharges loaded with shreds of decidua, leaving the impression in the patient's mind that she has had a miscarriage. There are pain and fulness on the side of rupture, with a mass of a boggy, fluctuating consistence in the pelvis. No one case being a repetition of any other, there is nothing fixed and unchangeable, save the termination—death, almost without exception, unless prompt surgical aid is given. I know no better place than just here to call your attention to the terrible mortality of the past. All of Bernutz's reported cases ended fatally. Dr. Forman, the coroner's physician, in a letter to my brother, reports nineteen cases of death from hæmorrhage from rupture of tubal gestation sacs. All ended fatally in six hours but one. How differently this list compares with that of many operators! All have recovered, save a very small percentage, from the surgical treatment in the hands of these operators.

There are many conditions that may be confounded with extra-uterine pregnancy. In fact, any mass in the pelvis, such as tubal trouble, a small ovarian or dermoid tumour, hæmatocele from traumatism, an abscess of the tube or ovary, gonorrhœal pyosalpinx, all have been mistaken for extra-uterine pregnancy. Even our electrical friends have mistaken tubal trouble for extra-uterine pregnancy, and wasted many valuable sittings to kill the fœtus, where none existed, and, strange to say, they did not cure the diseased tube. How, then, Mr. President, can we ordinary mortals come to a positive diagnosis? But these mistakes of diagnosis are of small moment, as the conditions which could be mistaken for extra-uterine pregnancy should be removed by the knife. I have seen the abdomen opened several times when a positive diagnosis had been made, where no pregnancy existed, and a small pus tube or dermoid tumour instead. I am sure the operator was not greatly disconcerted by the coditions found. No one need give himself anxiety; he should feel sure before operating that whatever the mass is, it must come away. In most cases of ectopic gestation in our own hands the diagnosis was made before operation. Rupture had taken place in every case. Diagnosis of tubal pregnancy before rupture would simply be a happy guest. Hæmatoceles, that have given our predecessors so much trouble, I think can be credited in great measures to ectopic gestation, and the remaining small number to traumatism.

We have come to that period where experimental treatment of ectopic gestation is a disgrace to our profession. Electricity, with all its barbarous instruments and murderous delays, will, I hope, ere long be forever thrown aside as a means of treatment for this condition. Its history certainly does not offer to any thinking mind any proof of its value, while, on the contrary, its record of death is truly appalling. Puncture, or injections into the sac of morphine or any substance, with the hope of killing the fœtus, is attended with greater risk to the mother than an immediate operation for its removal. I can find no language strong enough to express my commendation of these experimental methods.

Operation.—Where there is time, the room should be thoroughly cleaned, and all needless articles of furniture removed. A most efficient cleansing of the body with soap and water and brush is necessary, and the bowels should be thoroughly evacuated. No antiseptic should be used. If possible, a trained nurse should be obtained—one who is accustomed to the work of the operator, able to cleanse and take care of a drainage-tube and encourage the patient to bear patiently with the discomforts necessarily following an operation of this kind. Opium must be positively forbidden in all abdominal work; it interferes with the secretions, sickens the patient, makes her irritable and hard to manage, and conceals the symptoms of danger and otherwise complicates the recovery. A good light is needed. Every instrument and ligature and suture should be carefully scalded and placed in trays of warm water, handy to the operator or his assistant, so that in case of any emergency there will be no delay, for time is a material factor in these operations. The shorter the operation the less the shock. It should be mimimised in every detail; short incision, careful enucleation, perfect tying, most through irrigation with warm distilled water. No antiseptic whatever has any place or purpose in this operation. Antiseptics have done bad work for good operators. We see this admission in the journals almost daily: "Perhaps the antiseptic was too strong." Chemical antiseptics of any kind in the peritonæum do murderous work, and should be abolished by law, if our surgeons have not sense enough to discard them in this department of surgery. The after-treatment in these cases is of great importance. The drainage-tube should be cleansed every half-hour for the first day or two, until the discharge becomes small in quantity and serious in character, when it should be removed. The contents of the bowel should be kept in a soluble condition; and it should be purged with Epsom salts upon the slightest indication of peritonitis, when the symptoms will disappear like magic. The patient should be kept in bed from three to four weeks in the most favourable cases, and longer if deemed advisable. Any member of this society may be called to do this operation without preparation, instruments or nurses, and I have no doubt you would meet all the requirements of the case possible under the circumstances. With a patient bleeding to death, you cannot wait for anything. Where the surroundings and the condition of the patient will admit, an operator of known skill and courage should be procured.

VII.—SURGERY.

TREATMENT OF INGUINAL AND FEMORAL HERNIA.[1]

BY W. C. BRAISTED, PH.B., M.B.

Mr. President and Gentlemen of the Academy: The subject which I wish to bring to your notice to-night is one in which I have taken a deep interest for some years, and while I take pleasure in availing myself of such an opportunity, yet on account of the importance of the subject, the immense amount of literature already existing, the prominence and experience of fellow practitioners who have devoted so much time and attention in its study, one may well hesitate before speaking with any degree of confidence.

It is not my intention to criticise or to compare the views of others in regard to the operation in question, but simply to call attention to the importance of the subject, and especially to give a detailed description of a simple procedure, which seems to have partially solved an unsettled question, and which appears to have a logical foundation for its support. Without further apology let us then proceed to the consideration of the subject of "The Radical Cure of Inguinal Hernia, with some brief Remarks relating to Femoral Hernia."

In regard to the importance of the subject, when we consider that, according to the statistics of various authors, from 1 in 3 at a minimum, to 1 in 7 as a maximum, percentage of the human race suffer from some form of hernia, we immediately find a wide and fruitful field before us, and an opportunity, if we should be successful, of doing an immense amount of good to our fellow man, and of relieving what often has been the source of life-long care and suffering.

From the earliest times, this problem has confronted the surgeon, and as often as carried away by enthusiasm over a supposed triumph, so often each and every one has at last proved more or less a failure. Concerning these methods, we may sum up as the result of hundreds of years of study, the following as worthy of mention:

1. External appliances, as ointments, plasters, injections, cauteries, trusses, etc.

2. Simply incision, returning the intestine and closing the external abdominal ring.

3. Attempts to plug the inguinal canal by:
a. Simple sutures.
b. By inverted sac.

c. By excision of the sac and plugging the canal by omental, connective, or other adventitious tissues at one's command.

d. By simple incision of the roof of the entire canal, and causing the inguinal canal to be filled by new granulation tissue—in other words by the obliteration of the canal.

It is concerning the last of these of which I wish to speak. This operation is rapidly coming into favour and prominence among surgeons generally, especially in New York, and the credit undoubtedly belongs to Dr. Charles McBurney, who accidentally hit upon and perfected it, and who has also a brilliant record of thirty-six cases. It is, however, but just to mention that Reisel, many years before, performed an operation much the same in character, but the value of which seems

[1] Paper read before the Detroit Academy of Medicine, October 6th, 1889.

not to have been appreciated. I myself stumbled upon the idea while doing a secondary operation on a case previously operated upon by a brother practitioner, after the manner of MacEwan, which had failed. I, however, found that Dr. McBurney had been doing the same for some time.

CONSIDERATION OF THE PROBLEM OF HERNIA.

In considering an operation for inguinal hernia, our problem seems simple. Briefly it is:

1. Two openings, the external and internal abdominal rings.

2. A connecting canal, the inguinal canal.

3. A wedge-shaped mass of omentum, peritoneum, and intestine, tending to dilate this canal and its openings, and driven by the combined pressure of the abdominal contents and the muscular wall of the abdomen, which is estimated at a power of 50 to 75 lbs.

4. The tendency of this combined pressure is to expend itself at this point where the peritoneum has lost its normal shape, presenting, as the sac does, an infundibuliform wedge.

To cure, we must remove the above-mentioned conditions, *i.e.*:

1. Restore the peritoneal cavity to its normal size and shape.

2. Having done this, the force of the pressure of the abdominal contents is no longer expended at a single point by a resolution of forces, but *is* expended equally on each square inch of peritoneal surface.

3. To present this uniform resistance to the abdominal forces, we must destroy the possibility of, or even the tendency to, the formation of the sac wedge; *i.e.*, we must obliterate the inguinal canal.

4. We must remove the tissue forming the wedge itself, *i.e.*, the infundibuliform sac, which if left behind, either after being returned to the abdominal cavity, or left as a plug in the inguinal canal, results in the one case in destroying the normal symmetry of the peritoneal surface, and in the other, by constant pressure and imperfect adhesion and agglutination, atrophies, and leaves in the end the same condition which we have tried to remedy, and the possibility and probability of a return of the hernia.

If the inguinal canal is in fact destroyed, how then is it possible for the return of the hernia?

If the inguinal canal is necessary for the condition producing or tending to produce hernia, how if there is no inguinal canal, can a hernia occur? Here then lies the supposed solution of the question, and it appears so simple, so straightforward and plausible, that there is left no room to doubt. But here we are not left entirely to theory; of Dr. McBurney's thirty-six operations, each has been a cure without bandage, truss or other support; of thirteen operations for hernia, of my own (7) have been of this kind, and all have resulted in permanent cure, no truss or other support being required. Here then are forty-two consecutive cases, without a death, and without complications. Surely this would seem to warrant at least a slight hope that the operation may perhaps be the long sought-for solution of the question.

The operation, in my experience, is applicable to any inguinal hernia; the largest scrotal herniæ of long standing have proved as amenable to treatment as the smallest and more recent varieties. The cases have been unselected, and for the most part have been herniæ of large size and long duration, and with each case the conviction becomes stronger that the operation meets every indication. Time, the only test that can render us secure in one position, has been so far the only element of uncertainty, and for that reason one must still maintain an expectant and perhaps doubtful attitude. My first case has stood the test of some two and one-half years, and the patient, when last heard from, was loud in his expression of satisfaction at the result.

But it is of especial importance to recognize the fact, that if we have at last a sure and secure method of dealing with this trouble, we are immediately relieved of any hesitancy or doubt, when brought face to face with the perplexing question of what to do with strangulated or partially strangulated hernia.

Probably no one here but can call to mind some case of his own or friends, where the dangerous plan of taxis or expectancy, carried beyond safe limits, has resulted fatally. The teaching of the text-books at the present day leaves one in a sad condition of uncertainty as to his mode of procedure in a case of sudden and apparently irreducible hernia. Having failed in taxis we are to wait, to elevate the extremities, make hot or cold applications to the tumour, sleep over it in fact, in the uncertain hope that somehow or other the trouble will disappear of its own accord. In the meantime, who can foretell the result; perhaps a favourable one; perhaps the hernia hidden in its numerous coatings, and pressed upon by the constantly descending fæces and intestinal contents, is gradually having its very life squeezed out, and with it the life of the unhappy patient. The best surgical dictum of to-day says: "Any hernia not reduced in twelve hours, should be opened and reduced." But if we can find a method which offers a certain cure and no risk to the patient, we should no longer hesitate, but, secure in our position that by operating we can do nothing but good to our patient, we can calmly set about our task with a feeling of security, the pleasure of which only one can realise who stands confronted by such a problem. One of the saddest things to contemplate in medicine, and one which to-day tends to relegate medicine to an uncertain standing as an exact science, is the fact that we have been able to make so few laws for our guidance in regard to which there can be no dispute, no doubt, no uncertainty. If in the future it shall be found that we have in this instance been able to make such a fixed and definite law as the following: "That in every case of inguinal hernia, conditions being favourable, we should operate," we shall have accomplished a great end, and placed medicine quite a few steps higher in the scientific ladder.

OPERATION BY THE OPEN METHOD.

Having thus briefly indicated the somewhat extended scope of the operation, let us now consider the operation itself. Here, as in all operations of like magnitude, we must remember that success depends to a great degree upon our care in attaining asepsis.

With sepsis the operation becomes a very serious matter, and the possibility of a fatal termination is always to be borne in mind.

I think it is always well, on every occasion, to run over the preliminary antiseptic precautions in every case. Antisepsis thus becomes a part of one's self, and the surgeon performs every operation in a perfectly aseptic method from mere force of habit, and without any necessary thought or concentration of mind upon the details of aseptic procedures. The operation should be performed if possible on a clear day, in the morning, the patient's bowels having been emptied early, and a glass of milk or other light nourishment taken. The patient, being placed upon the table, rendered aseptic by washing and covered by towels soaked in bichloride, 1-1000, should be well protected over the chest and extremities. The temperature of the room should be, if possible, about 80° Fahr. The region of the thighs and lower half of the abdomen should be thoroughly washed and scrubbed with hot water and soap; the hair of the pubes and scrotum carefully removed by a sharp razor; the remaining fat and dirt of skin should be carefully removed by washing the seat of the operation with ether, and the parts should be carefully washed and irrigated for some few moments with a warm solution of bichloride of mercury, 1—4000. The thighs should be carefully wrapped in bichloride towels, 1—1000, and the surroundings of the contemplated operation by same; one or two carbolised towels should cover the blankets on the chest upon which instruments in immediate use can be deposited.

The instruments and other appurtenances should be carefully prepared—and I think it always wise to carefully boil all instruments to be used. All appliances for operation having been carefully prepared, our patient ready for operation as described, the surgeon and his assistant in position, the anæsthetic, preferably ether, should be given. In every case I personally prefer, if possible, that the hernia should be well down and held securely by an assistant.

When the patient is fully anæsthetized and quiet, having carefully settled upon the direction of the axis of the canal, the skin being rendered tense, an incision extending from $\frac{1}{4}$—$\frac{1}{2}$ in. above the internal ring, to $\frac{1}{2}$—1 in. below the external ring is made—the first incision simply penetrating through the skin; next with light, full strokes the fat and fascia are divided. From this point the greatest caution should be exercised in approaching the sac. A small blunt grooved director is passed gently under each layer of hernial covering, and on this the tissue slit up to the full extent of the wound. Too much time and care can hardly be spent in the careful dissection of the sac. Having reached the sac we come to the first important question of the operation, viz., how to treat it.

1. *In recent herniæ* of small or unappreciable size, when the peritoneum has not been permanently stretched in a pouch, I am inclined to simply return the mass to the abdominal cavity.

2. *In heruiæ of longer standing*, and with permanent dilatation, and especially in hernia of large size, the sac should always, I think, be carefully opened at or near the fundus. The glistening coat of intestine is easily recognised, and should gently be returned to the abdominal cavity beyond the internal ring, the finger being kept in the sac to prevent its return; then a catgut ligature, No. 8 best, of the aseptic properties of which we can have no possible doubt, is passed around the sac and slipped just beyond the finger end and just inside the internal abdominal ring, tightly tied by a triple knot, and the sac cut off as near the knot as safety warrants. We have now practically completed the operation. Let us recapitulate:

We have cut through and destroyed the entire roof of the inguinal

canal; we have destroyed the external and the internal abdominal rings; we have restored the peritoneal cavity to its normal size and shape.

One very important factor, seldom if ever dwelt upon, is the care to stop all hæmorrhage, be the oozing ever so slight. In two cases I have been extremely annoyed by the slight and continual oozing of blood into the connective tissues surrounding the wound, and into the scrotal tissues below, in one case being obliged to undo the dressings and cut away much black, infiltrated, and swollen tissue, and this too when I had used great care, as I thought, to limit all hæmorrhage.

This oozing is especially liable to occur in those cases of enormous scrotal hernia where the sac has become firmly adherent, and where much tearing of scotal tissues ensues from endeavours to free the sac.

I may mention here, that in the last case operated on, the one presented to you, I succeeded in not cutting any vessel of size, nor was I compelled to apply a single ligature, not more than a few drachms of blood escaping during the entire operation.

In completing our operation, I have, as a safeguard, began by fastening the cut internal end of the sac to the tissues around the internal ring by means of a few sutures; this also prevents any subsequent discharge from entering the abdominal cavity, and so tends to seal the most delicate tissues involved from further septic exposure.

The next point to which we pay particular attention is the spermatic cord, which you will remember lies along the inner border of the wound, and which with its vessels is quite exposed. It has been my custom to carefully stitch by continuous sutures that there shall be no undue pressure on the cord itself, thus leaving the latter in a snug little compartment by itself.

Next the outer flap is loosely stitched to the bottom of the canal, no attempt being made to approximate the edges of the wound; on the contrary the idea seems to be to leave as much space as possible between them, to be filled subsequently by new granulation tissue. If the scrotal tissues have been much disturbed, as in the case of large adherent sacs, it is well to run a small rubber drainage tube through the bottom of the scrotum thus securing egress for any possible collection of inflammatory material. The wound itself is packed with iodoform gauze, or other antiseptic material, and this constitutes a quite important procedure. The packing should be thorough, the attempt being to keep the wound widely open, and everything is done to favour granulation from the bottom; otherwise it sometimes happens, as in the case before us, that there will be a hasty and superficial granulation, which, on account of weakness, one must tear open again, or else there may result some small sinus or cavity which, becoming filled with pus, will prevent the complete and solid occlusion of the wound for weeks.

This practically completes our operation. Careful antiseptic dressings are applied and firmly bandaged, and these should be left in situ for two or three days, when the wound may be redressed, and carefully irrigated; and it should be redressed every three days for several weeks. Note that no pad, truss, or other support is needed but is in fact contraindicated.

There are special points on which we can lay especial stress.

1st. The operation is almost devoid of all danger.

2nd. It is in fact a cure, no support or truss of any kind being needed, but rather to be avoided as tending to weaken the cicatrix and to thin the abdominal wall.

3rd. Even when suppuration and subsequent inflammation ensue, we still have nothing to fear; there is no closed cavity, and everything drains away to the point of least resistance, *i.e.*, to the surface in each case.

The question is often raised as on objection, "That the cord may be impringed and pressed on, and thus its functions interfered with and destroyed." Such, however, has not been the case. No trouble has arisen, in fact, and so far there has been no reason to doubt that the operation has accomplished all that is claimed for it; and just as we find that, often after years of labour resulting in some intricate and marvellous mechanism, a simple device finally fulfils the indications and requirement of the more complicated machine, so here our only wonder is, why the operation was ever done otherwise.

A brief summary from my notes may be of interest:

1.—J. B.; operation for inguinal hernia; single of right side; open method; highest temperature, 103.4° F. Temperature normal at end of first week. Suppuration slight, and due to catgut sutures; wound healed at end of four weeks. Patient walking at end of six weeks; cured at the end of tenth week.

2.—M. S.; operation; open method; double inguinal direct, of long standing and large size; highest temperature, 104° F.; temperature normal at end of second week, slight rise during the third week, again normal on careful irrigation: wounds about closed at the end of the sixth week; some slight suppuration due to rapid closure on right side. Patient up and about at end of the eighth week; under observation for three months; cured when last seen.

3.—E. M.; female; recent hernia; strangulated inguinal of left side; open operation; highest temperature, 103·1° F.; temperature normal at end of ninth day; wound healed at end of fourth week, patient working at end of the eighth week; cured.

4.—E. P.; inguinal; right side, of long standing; small in size; operation; highest temperature, 102·5° F.; entirely healed at end of three and one-half-weeks; patient walking at end of five and one-half weeks. In eight weeks cured.

5.—M. T.; re-operation by open method (after McEwens' operation had failed, being followed by local peritonitis, sloughing and suppuration of omentum); highest temperature, 103·5° F., middle of second week. At the end of fifth week wound nearly healed, with the exception of a long fistulous tract leading into the abdominal cavity some eight inches long. Patient did finally recover at end of three months; protracted healing being due to trouble in closing the afore-mentioned sinus. Final recovery perfect.

6.—M. C.; single, inguinal direct, of long standing; highest temperature, 102·8° F.; wound entirely healed at end of fifth week, and patient sitting up. Complete cure and recovery at end of seventh week.

7.—F. B.; single inguinal hernia, left side, of short duration; operation by open method; highest temperature on third day, 100·4° F.; on tenth day wound almost entirely granulated; patient's temperature normal on sixth day, patient still under treatment, now two and one-half weeks after operation.

REMARKS ON FEMORAL HERNIA.

To the eighth case, or rather the seventh in point of time, and the case presented to-night, I wish to call espccially attention. The problem in femoral hernia seems to be of less importance than the inguinal, and would appear to be less difficult to deal with. In the inguinal canal we have a permanent natural outlet to the abdominal cavity; while in the case of the crural canal we have an artificial production, no canal existing in reality, except by dissection or by the production of such a canal by pressure of the abdominal contents or changes produced by disease or pregnancy.

It has always seemed to me that the conditions existing in femoral hernia are so nearly analagous to those in the case of inguinal, that an operation applied to one could be easily reproduced in the other. So far as I can find, no one has yet made trial of the "Open Method of Operating on Femoral Hernia;" it was, therefore, with heightened interest that I have watched the case before us to-night, which I present to you as the first of its kind.

Let us *again* then, place before us clearly our problem. We have as before the abnormal condition of the peritoneal cavity, which, in each case, must be considered as the prime factor in keeping up hernial tendency, and we have an artificial canal a quarter to half an inch long, bound by strong fibrous tissues.

We have an artificial opening, the femoral ring, caused by the destruction of the septum crurale, and a second ring, if we please to continue the similarity at the saphenous opening, caused by the destruction of the cribriform fascia. We have also a number of borders and bands of strong fascia tending to restrain the hernia in the first place, and to prevent its return and produce strangulation in the second place. We have also to keep in mind the femoral vein and artery, in the same sheath in the canal to its outer side, the anterior crural nerve, and also the epigastric artery at the upper and outer portion of the femoral ring.

Thus are reproduced many points of similarity to the inguinal canal. If our operation succeeds we trust to restore the peritoneal cavity again to its normal condition, to close the femoral ring so far as the compartment produced by the hernia is concerned, and to close the canal with granulation tissue, as well as the saphenous opening; but a difficulty arises here analagous to the spermatic cord in the inguinal variety, *i.e.*, may we not injure by pressure or by inflammatory action, the integrity of the femoral vessels. This question can, of course, only be settled by time. In the case before us there has been considerable inflammatory action, but there seems to be no interference with the vessels in any way. In place of any theoretic remarks on this form of hernia, I shall simply relate to you the history of the case presented, and give a concise statement of the operation and some remarks on the result.

8. E. M., æt. 20, English, school girl. Family history: Mother nervous, father and two brothers have hernia, one brother consumptive. Patient has not been in good health for some years; menstruation irregular; bowels inactive. Seven years ago, while playing, the rupture on left side (femoral) occurred; this was reduced, but patient has never been able to wear a truss or to keep the hernia in position. Several times the hernia has been partially strangulated. For some months past the patient was unable to do work of any kind, and finally submitted to a Heaton's operation, but without result. On exami-

nation, a femoral hernia of left side about the size of an orange was found, giving impulse on coughing, and reduced without much difficulty. Also found same condition on right side, but very small, and limited to the crural canal. An operation was decided on. The patient was prepared as before described for the inguinal operation, ether administered, and, assisted by Drs. Cleland and Collins, I cut down upon the site of the hernia, keeping half-inch inside the course of the femoral vessels. A careful dissection brought into view the cribriform fascia and falciform process of the fascia lata, together with the bed of the hernia. The sack was carefully dealt with, according to the method described for herniæ of small size, and passing the finger through the saphenous opening and up the crural canal, entrance through the latter was easily had to the abdominal cavity; the tissues forming the roof of the canal were slit up to the internal opening; the femoral vessels in their sheath were exposed, and carefully held aside by an assistant; the internal or femoral ring could be plainly distinguished, and a strong suture of silkworm gut was passed from a point just inside the course of the femoral vessels and flush with the internal ring, diagonally upwards and inwards, and firmly tied. The internal ring was thus entirely occluded, as was demonstrated to the gentlemen present by personal examination. The tissues of the outer edge of the wound were then carefully drawn over the femoral vessels, and stretched to the bottom of the wound, thus forming an artificial canal; and the inner edge of the wound was treated in the same way; drainage was supplied by a decalcified bone tube, the wound packed with iodoform gauze, and the limb bandaged with a spica bandage of bichloride gauze—time of operation being thirty-eight minutes. The patient reacted nicely from the ether, but complained of much pain at seat of the wound; this pain soon disappeared. The temperature just after the operation was 98.5°; it reached a maximum height on the fourth day of 104.1°. The wound granulated nicely, in fact too rapidly, and I was obliged to keep it open by tearing away the fresh superficial granulations. Pneumonia of the right side developed during the fifth week, causing a rapid rise of temperature to 104°, and I prepared to open the wound, expecting to find pus enclosed, but upon examining the lungs I discovered the pneumonic process.

In spite of care the wound came together too rapidly, and left a small sinus which, though nearly healed at the present time, still exudes a few drops of pus. On account of pneumonia the patient was confined to bed until the ninth week, since which time she has been up and about, and was soon feeling better than before the operation. Two weeks ago the patient began doing housework, and has swept, carried coal, and cooked for a family of eight, together with the general care of a large house, with no return of the hernia, or symptoms of return. You have noticed the deep cicatrix binding firmly the site of the femoral canal far more securely than any truss or bandage could do. No truss or other appliance of any kind has been used, and now at eight weeks from the time of walking the condition of the wound seems better than ever, and more secure and firm. The case, however, speaks for itself, and if it continues to perform its functions as heretofore, we may confidently hope to call it a cure after it has stood the test for a sufficient time.

My object in citing this case is to call your attention to the possibility of broadening the field of the open operation to include femoral, as well as inguinal, herniæ. My, perhaps limited, research fails to find any record of a case of femoral hernia treated in a similar manner, and should it prove to be as sure and safe as the same operation for the inguinal variety, I feel sure you will agree with me that the operation is one of the leading surgical advances of the day, one well worthy of the close attention of us all, and reflecting great credit on Dr. Charles McBurney, who has, perhaps, more than any other surgeon, brought the operation to perfection and prominence.

His article in the *Medical Record* for March, 1889, is well worth reading, and I consider it the most masterly treatment of the subject yet devised. As I have before said, I have no desire to criticise other methods, for the results of each method have proven them to be limited to special cases, where cures were affected. Other cases have been called cures, while a truss or other support is as constantly worn.

Here, in this method, we have an operation devoid of risk, applicable to any case whatsoever, giving us an abdominal wall more secure than the normal, and not needing any support or appliance, but in which we rather court the supposed dangers of lack of support.

I trust that I shall not be misunderstood. I would not say that every hernia, inguinal and femoral, should be operated upon; I do not include in these terms infantile herniæ, which should be spoken of separately.

My idea here is rather to bring to your notice the operation; in another paper, at some future time, I trust I may have the pleasure of placing before you the reasons for the operation in a somewhat different way, and for causes other than those we at present speak of.

Finally, I trust you will not hastily condemn me as being rash or inconsiderate in striving to widen the scope of the operation to some extent, for I think the true physician or surgeon should be free from bias or prejudice, and untrammelled by any of the sad consequences of rashness.

Although, in my own mind, the operation extends much farther than the limits I have here set down, I would not even allow their expression until there is no doubt of their truth.

Thanking you for your kindness and attention, I will now leave the matter to your consideration.

The Spirit of the Societies.

The Clinical Society of Manchester, Tuesday, November 19th (Dr. Railton, president, in the chair). **A Case of Rickets with Unusual Deformity.**—Dr. Railton showed a girl, æt. seven and a half years, who, in addition to many of the customary deformities, had a remarkable bilateral flattening of the upper two-thirds of the shaft of each humerus. The anterior bicipital ridge projecting almost like a knife-edge beneath the skin. The affected portions were also curved, with the convexity forwards from above downwards, the posterior aspects being correspondingly concave. The symptoms of rickets had apparently not shown themselves until after the end of first dentition. Dr. Railton suggested the possibility of the flattening and bending being caused by the anus having been grasped at that part while the bones were in a softened state.

Radical Cure of Hernia.—Mr. E. Stanmore Bishop read a paper on the above. After some remarks as to trusses, and the objections to their continuous use, he gave a short sketch of the various operations at present available, and described a modification of the latest, that of Dr. Macewen, which he had used and found satisfactory. It consisted essentially of a novel manipulation of the sac, and was based upon Macewen's principle of reduction of the sac into the interior of the abdomen.

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Royal Academy of Medicine in Ireland (Dr. E. H. Bennett, president).—The President delivered an introductory address.

Fracture of the Skull, with Hernia Cerebri.—Dr. T. Evelyn Little brought forward a case of fracture of the skull, with hernia cerebri, in a child. The patient died on the fourteenth day in an attack of convulsions, there having been no symptom whatsoever pointing towards a fatal result until a few hours before death. At the *post-mortem* examination meningitis was found over both hemispheres, and an excavation in the frontal lobe corresponding to the seat of the injury.

The President said the disproportion between the injury to the bone and the injury to the brain was fully borne out by the experiments, which had demonstrated the great elasticity of the skull in children.

Dr. Swanzy said the feature of the case which had interested him most was the symptom of the turning of the head towards the side on which the injury was situated. As Dr. Little had mentioned, that was generally associated with rotation of the eyes in the same direction. There was a conjugate deviation of the eyes and head towards the same side. But they might have one part of this duplex symptom without the other. In health a very discursive motion of the eyes to one side was usually associated with a motion of the head in the same direction; nevertheless, by a slight effort of the will it was possible to turn the eyes while the head was kept steady, or to turn the head while the eyes were fixed. Consequently they need not be surprised if in any diseased condition they should occasionally find one part of this duplex symptom without the other. With regard to the position of this centre of motion of the head and eyes, Ferrier, by experiments made some years ago on monkeys, satisfied himself that it was situated in the superior and posterior parts of the middle frontal convolutions. Some time afterwards Grasset argued from clinical observations that the site was in the inferior parietal lobuli. Some time after the site was placed by Horsley again in the frontal lobe. A few months ago Wernicke ascertained to his complete satisfaction that it was situated in the inferior parietal lobuli; and now they had Dr. Little placing it in the frontal lobe.

Dr. Little, in reply, admitted that there were different theories with respect to conjugate deviation of the head and eyes. As to the deviation in this case having been due to some more distant lesion of the brain, he felt some difficulty in adopting that supposition.

Although the amount of brain substance lost was very considerable compared with the injury, still it was remarkably definite and remarkably local; and these circumstances were of importance in connection with the question of localisation. To say that the lesion here might have produced symptoms of interference with centres in other parts of the brain was no more than what could be said with respect to any lesion, traumatic or from disease, in any part of the brain.

Case of Renal Calculus.—Dr. J. K. Barton communicated a case of renal calculus, which had been successfully removed by a surgical operation. The calculus had been tightly wedged into the calices of the kidney.

Dr. Foot asked was there any history of hæmaturia in the case? The symptom was an obvious one in the diagnosis of renal calculus; still he should not have thought it likely to occur here on account of this being a fixed calculus.

Dr. Barton, in reply, said the patient had no hæmaturia. The urine was faintly acid, but became alkaline after it had stood for some time.

Case of Conjunctival Cyst.—Dr. J. B. Story submitted a conjunctival cyst which had been removed from the eye of a baby aged six weeks. It was attached to the cornea, and sent a band backwards to the internal rectus muscle, from which it had to be raised by a strabismus hook. The cyst was a dermoid, and Mr. Scott exhibited microscopic sections of its wall. Mr. Story commented upon the presence of these dermoid cysts in cases of coloboma of the lids, and dermoid bands uniting the globe to the skin of the face, and stated his approval of the theory of Van Duyse, who attributed all these defects to the existence of amniotic adhesions in embryonic life.

The President remarked that adhesions between the amnion and the surfaces of the embryo were the greatest cause of these congenital defects.

Tubercular Kidney.—Dr. Heuston submitted an example of tubercular kidney in a boy, æt. thirteen, which had been successfully removed by surgical operation, and said there were microscopic specimens of the kidney on the table showing the giant cells and other evidences of tubercular disease. He has been unable, however, to detect in these specimens the bacillus tuberculosis.

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Liverpool Medical Institution (Dr. Carter, president). **Excision of Right Shoulder.**—Dr. Damer Harrison showed a patient after excision of shoulder, including a large portion of scapula.

Stricture of the Urethra, Extravasation of Urine, etc.—Dr. Rushton Parker read a paper on the above subject, in which he described the operation of internal urethrotomy with Maisonneuve's instrument as generally practised by himself in narrow strictures. He had performed ninety operations, other than the passage of bougies, and had had five deaths (there being cases of external urethrotomy, of which two were for extravasation and gangrene out of the ninety). There were sixty-three cases of internal urethrotomy, of which one died apparently from the operation, a second was moribund at the time of operation, and a third was unrelieved, but had extravasation and gangrene, for which perineal section was subsequently done without saving the patient. Mr. Parker spoke highly of Lister's polished metallic bougies of conical shape, with olivary tips, as facilitating continuous dilatation, which under chloroform can be rapidly effected even in rigid strictures. Under any circumstances he preferred, after any severe instrumentation, to leave an easy exit for urine from the bladder. In extravasation he advocated median incision of the perineum in the first instance without incising the scrotum. Should the case be attended with gangrene, counter openings can then be made, but if not the scrotum can be spared. He had twice met with extravasation of sweet urine for which single perineal incision sufficed.

Mr. Puzey said he had never practised internal division except in cases of penile stricture. The practice of "vital dilatation" in the old-fashioned way as taught in his student days at Guy's, was still good enough for him, and he saw no reason to try a more questionable operation. He believed that it was not only safer, but more permanent in its good results. When a cutting operation was required, he preferred external urethrotomy, as being not only a safer operation, but as allowing more precision and completeness in dividing the stricture. He had never had the slightest difficulty or complication arising from the operation itself, although this, as another treatment, would fail to produce a successful result when the kidneys were hopelessly diseased. With regard to cases of extravasation of urine due to stricture, a free incision in the median line (generally followed by drainage of the bladder) was in most instances the main feature of surgical treatment.

New York Surgical Society, October 9th, 1889 (Dr. Lewis A. Stimson, president). **Intestinal Strangulation.**—Dr. L. S. Pilcher, of Brooklyn, presented a specimen taken from a case in which the patient had died after a laparotomy for the relief of intestinal strangulation, with the following history: A man, æt. thirty-seven, was admitted into the Methodist Hospital on September 14th, with symptoms of intestinal obstruction. The abdomen was tympanitic, rigid, and tender; pulse, 140; temperature, 100.4° F. He was vomiting frequently a greenish fluid, without feculent odour; his attending physician stated positively that on the preceding day he had vomited feculent matter. Ten days previously he had had his last normal stool; four days before admission he had had a slight movement of the bowels, described as black and tarry in character. Seven days before admission he had a transitory attack of severe colicky pain in the abdomen; previous to this time he had supposed himself well, as he always had been. This attack did not prevent him from working as usual for the next three days, after which time the colic returned, accompanied with vomiting, and these symptoms persisted until his admission into the hospital. Cathartics, opiates, and enemata had been used vigorously before his admission. After his admission another enema was administered, without result. The stomach was then washed out, after which laparotomy was proceeded with. Exposure of the intestines revealed a general peritonitis already present, with great distension of the small intestine throughout its whole extent. The incision was lengthened sufficiently to permit of the ready turning out of the small intestine; the large intestine, quite empty, was then traced backward, beginning on the left side; at the hepatic flexure it was found to be imbedded in a mass of old organised inflammatory material, which bound it to the posterior wall of the cavity. This formed a band an inch or more in breadth, glueing all the adjacent structures together; on the proximal side of the band there was the livid, softened, distended ascending colon. It was evident that any attempt at breaking up the inflammatory adhesions would be attended with great risk of rupture of the intestine, a risk that was increased by the depth of the involved parts from the surface. The speaker accordingly proceeded at once to circumvent the obstruction by forming an anastomosis by bringing the lower portion of the ileum up to the ascending colon a few inches beyond the point of obstruction. This was accomplished by the use of Dr. Abbe's catgut rings. Great difficulty was experienced in returning the distended small intestines, and a puncture was necessary to empty them. This being closed, they were returned into the abdominal cavity. The patient never rallied from the shock, but died within an hour after his return to bed. The autopsy showed a chronic ulcer of the ascending colon, which had not perforated the peritonæum, but had, nevertheless, occasioned the local peritoneal exudation that had caused the obstruction. It was found that, so far as the anastomosis was concerned, everything had been accomplished that had been attempted at the operative procedure.

Dr. Abbe thought that in these cases of acute obstruction the operation for effecting anastomosis had better be delayed until after the colostomy. The shock was too much for the patient to stand. After obtaining relief from the colostomy there was no danger after a fortnight in anastomosis.

Dr. Abbe presented a specimen illustrating a typical case of internal intestinal strangulation by a band. A lady of thirty-five was suddenly seized with vomiting and hypogastric pain. She was attended by a physician who endeavoured to bring about purgation. Enemata, calomel, and other purgatives failed. Not even wind passed the bowel. Vomiting increased, and on the third day became stercoraceous. The abdomen became tympanitic, but showed no dull area to suggest the seat of obstruction. At the end of the fourth day, when she was first seen by Dr. Abbe, she had already for six hours shown characteristic apathy and exhaustion. Her temperature was normal, her pulse 100. Laparotomy was immediately resorted to under ether. The abdomen was found filled with distended and highly congested small intestines, among which was seen a small coil of pale and empty intestine. This and the distended gut both terminated in Douglas's *cul-de-sac*.

The Fallopian tube on each side was turned upward and fixed by adhesion so as to form a tight pocket behind the uterus, in which was caught a strangulated knuckle of the ileum, with its adjacent coil for three inches. The attempt to move it was futile, on account of fixation, and, as the patient's strength began to flag, he was obliged to do an ileostomy of the lowest distended coil as rapidly as possible. The patient lived five hours and died of the shock of strangulation plus operation.

The gut was found gangrenous under the line of the strangulating band. Fæcal vomiting occurred twice after the operation.

Pathological Society of London (W. H. Dickinson, president).—The President opened the session by referring to the migration of the society from Berners-street to Hanover-square. He said the council had agreed to pay the Royal Medical and Chirurgical Society one hundred guineas instead of seventy-five, as the accommodation now offered them was much larger.

Addison's Disease in a Diabetic Patient.—Dr. Samuel West read the notes of a case of diabetes mellitus which occurred in a patient, æt. forty, affected with Addison's disease. The urine contained 2.5 per cent. of sugar, had a specific gravity of 1034, and contained a trace of albumen. The liver was enlarged and tender, and there was a little dulness at the base of each lung. The skin was discoloured, and of a greyish colour. After admission to hospital the patient had dysuria, which was due to cystitis, and caused a temporary rise in the temperature. Careful diet with pilocarpine, and a small quantity of opium was prescribed, and there was a considerable diminution in the quantity of sugar in the urine. A month after admission an attack of subacute rheumatism developed; temperature rose to 105°; vomiting set in, and the patient died. The suprarenal capsules were found at the necropsy to be embedded in dense fibrous tissue, by which they were bound to the kidney on each side, and to other parts in the neighbourhood. Dr. West regarded the association of diabetes with Addison's disease, as nothing more than an accidental coincidence.—Dr. Wilks referred to the remarkable fact of Addison's disease being found in association with diabetes.

Hypertrophic Cirrhosis in a Child.—Dr. F. G. Smith read the notes of the above from a specimen sent to him by Mr. J. A. Jones, of Aberavon, in a little girl æt. four and a half years. Their was no hereditary taint of any form. The child suffered from icterus neonatorum at birth, but this cleared up entirely in a few weeks. At the age of three and a half she had rackets and jaundice, but both conditions cleared up under treatment, though the liver ever after was felt to be enlarged. At four years she had another attack, from which she never rallied; she died in six months.

Congenital Heart Disease.—Dr. Norman Moore showed and described the following specimens: The heart of a girl eight and a half years, who was a patient of his at St. Bartholomew's Hospital, and died of abscess in the posterior half of the left lenticular nucleus, with basal meningitis. The upper part of the septum centricularum was absent. The pulmonary artery was very small, and opened from the right ventricle somewhat nearer the middle line than natural. The origin was surrounded by a thickened base, and no valves were visible unless this base was formed by thickened and adherent valves. The arch of the aorta was dilated, and so was the right auricle. The ductus arteriosus was closed, but a deep pit marked its insertion into the aorta. The left common carotid and innominati were nearer to one another than was commonly the case. The patient had been blueish and short of breath from birth. Her fingers were clubbed. A loud cystolic murmur was audible over the whole cardiac area, and also at the angle of the left scapula the loudest, and at the second left intercostal space near the sternum. The cerebral abscess was probably due to an embolon from a firm anti-mortem clot contained in the right auricle, and which came very near to the orifice of the aorta.—Dr. Stephen Mackenzie mentioned the case of a man who had been admitted into the London Hospital for syphilis in an early stage, with the chancre still recent, and a secondary eruption out upon him. Soon after his admission he had died suddenly, and at the *post-mortem* examination a gumma was found in the heart, which had undoubtedly caused his death. This case had often been referred to on account of the early stage of the disease in which a gumma was present.

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Midland Medical Society (William Ross Jordan, president.) **Amputation of Leg.**—Mr. Jordan Lloyd showed a leg that he had recently amputated for chronic ulceration. There was great hypertrophy of the skin, and subcutaneous tissues, together with some thickening of bone.

Malignant Disease of Rectum.—Mr. Marsh read a paper on the treatment of malignant disease of the rectum, and showed a patient from whom he had excised the rectum after having done a preliminary colotomy.

Muscular Atrophy in Locomotor Ataxy.—Dr. Suckling showed a stenographer, æt. twenty-nine, suffering from locomotor ataxy, with well-marked muscular atrophy. The man had lived in America for four years, and had suffered from ague. His present illness began in December, 1887, when he was seized with incessant vomiting. After a year these attacks became frequent, and now occurred every few days. In June, 1888, he noticed his hands were numb, the numbness beginning between the index and middle fingers, and since that time his hands, feet, and forearms had wasted; legs also. He had since lost the use of his left arm. His hair was grey, and he was emaciated and feeble. The man had never had syphilis, and had been steady, and there was no hereditary history. Suspension was tried in this case, but could not be borne. Quinine was useless. Morphine was the only thing that gave relief.

The officers and council were elected. *President:* Lawson Tait. *Members of Council:* Dr. Holmes Joy, Dr. A. Underhill, Dr. Simon, Mr. Bennett May, Mr. Jordan Lloyd, Mr. Messiter, Mr. Chevasse, Mr. Bailing, Mr. Priestly Smith, Mr. A. Clay, Mr. Eales, Mr. W. Thomas. *Treasurer:* Mr. Garner. *Secretaries:* Dr. Suckling, Mr. Haslam.

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Bradford Medico-Chirurgical Society (T. C. Denby, M.D., president). **Disseminated Sclerosis.**—The President showed a case of disseminated sclerosis, complicated by the presence of exalted ideas, which at first made the diagnosis from general paralysis difficult.—Dr. Major also made some remarks on the case.

Disease of Cerebellum.—Dr. Major showed a specimen of the above disease, in which the diagnosis, *inter vitam*, had been made of a tumour of the middle lobe pressing on the motor tracts of the medulla, and causing paralysis. A peculiar feature was almost constant lividity of both arms. The *post-mortem* examination showed a large cyst occupying the middle lobe and part of the left hemisphere, filled with clear water.—Drs. Goyder, G. Carter, and Mr. Althorp joined in the discussion, the latter advancing a suggestion that this cyst might be a fœtal remainder of a ventricle in the cerebellum, as was to be found in some birds.—The President also recorded a case in which the cerebellum had been filled with small tumours.

Prolapsed Ovary.—Dr. Goyder read notes of a case of prolapsed ovary, in which he had successfully reduced the ovary, and kept it in position with a modified Hodge's pessary.

Empyema of the Maxillary Antrim.—Dr. H. Bronner read notes of a case of empyema of the maxillary antrim successfully treated by drainage.

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Leeds and West Riding Medico-Chirurgical Society (A. F. McGill, president). **Chloride of Zinc as a Caustic in Cancer of Female Generative Organs.**—Dr. Braithwaite read a communication on cases illustrating the advantages derived from the use of chloride of zinc as a caustic in cancer of the female generative organs. In the course of his remarks he saw (1) that the knife should be first used, when possible, and in case of its return the zinc should be applied. (2) There were some cases where the zinc could be used first, and, indeed, the only weapon, as in commencing cancer of the cervical canal of the uterus, when from any cause the organ could not be pulled down into view, as when the uterus was fixed by old inflammatory adhesions. In commencing cancer of the vulva or vagina, if the disease were superficial and not of great extent, this treatment alone was necessary. (3) It should be applied by means of a thin layer of cotton wool, wetted with the zinc solution, and lightly pressed between two pieces of blotting paper. It then did not run. (4) A saturated solution should be used. (5) The caustic required time: twenty-four hours was generally the time it took to act, but if a deeper action were required, it might be left longer. (6) It was followed by a great contraction of the parts, which was to some extent a safeguard against its return. He (Dr. Braithwaite) thought it superior to Paquelin's cautery, acid nitrate of mercury, and potassa fusa.—Mr. Mayo Robson did not agree with Dr. Braithwaite, not being convinced of the utility of the procedure advocated by him. In the first two cases cited, only a few weeks had elapsed since they had been treated, and already other applications had been required. The third case had resulted in sloughing of the cervix when the disease had not been proved cancer; and in the fourth case, merely temporary relief had been given. Mr. Robson thought that when cancer of the uterus could be removed by the scissors and knife, it should be done; but when the uterus was fixed, and the disease was beyond the reach of the knife, the application of caustic was dangerous, uncertain, and unscientific.—Mr. Croft thought Dr. Braithwaite had somewhat over-stated his case as regards the question of pain. At any rate, in those cases with which he was associated, where the disease affected the vagina, the pain was severe, morphia being required two or three days afterwards.—Dr. Braithwaite, in reply, said that in many cases the pain was slight. As regards the reproach that his treatment was unscientific, he was of opinion that patients would prefer to be cured by methods that were unscientific, rather than be left to die, because the only available means of cure rested under that terrible stigma,

Harveian Society of London (Thomas Buzzard, M.D., president).—**Anti-Fermentative Treatment of Diarrhœa.**—Dr. Tuff read a paper on the causation and treatment of that variety of acute infantile diarrhœa produced by irritative products resulting from fermentations set up in milk, either previous to or during ingestion. While admitting that though probably several irritating substances resulting from the fermentation of milk were factors in the production of the form of acute infantile diarrhœa under consideration, he contended that the principal share of the blame rested with the milk or cheese ptomaine, tyrotoxicon, produced during the fermentation of milk under certain conditions. Dr. Tuff referred to Dr. Illingworth's antiseptic treatment of infantile diarrhœa, which he had himself found most useful, and the employment of which had first directed his attention to the treatment he had used. This consisted in drug and diet combined. The drug treatment consisted in the administration of one-fiftieth of a grain doses of biniodide of mercury dissolved in iodide of potassium, combined with one-grain doses of chloral hydrate. It was shown experimentally that the soluble biniodide of mercury was an extremely soluble and diffusible salt, and that it possessed the property of combining with and rendering insoluble the milk ptomaine tyrotoxicon. Of eighty cases of diarrhœa treated by this method, the diarrhœa ceased within two days in seventy-two of the cases. In five out of the remaining eight cases, it ceased within eight days, and in no case did it last over seven days.

Surgical Aids and Appliances.

127.—THE NEW ANTISEPTIC ARTIFICIAL DRUM.

Dr. Ward Cousins writes:—"The new membrane which I desire to submit to the criticism of my professional brethren is represented in fig. 1. In shape, it is exactly like a hat with a very high and tapering crown, and a broad and flat brim, having a short ribbon attached to the edge. It is just firm enough in substance to retain its shape in the ear, and yet the material is so soft and flexible that it causes no sensation by its presence. It is

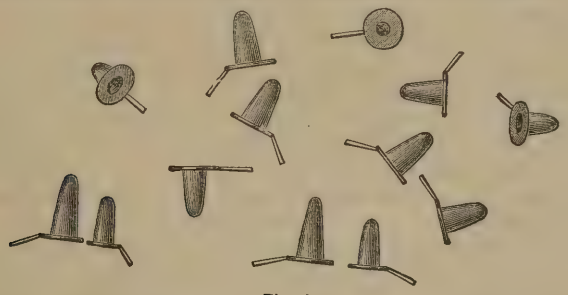

Fig. 1.

stained a delicate flesh-colour, and is made in several sizes to suit the varying capacity of the external meatus. When in position, the crown rests near the tympanic membrane, the brim upon the meatal wall, and the little ribbon or handle behind the tragus. The method of manufacture has been worked out by a series of experiments. The material is composed of compressed cotton fibre swollen by prolonged immersion, and saturated in an antiseptic oil and ether; the soft material is then firmly pressed in a little machine that I have designed for the purpose, and afterwards dried by artificial heat.

One marked feature of the new antiseptic membrane is its extreme lightness. The weight varies a little, according to the size, and this has a range of one-sixth to one-quarter of a grain. I have often introduced it without the patient being aware that anything had been put into the meatus. Another special quality consists in the facility with which it can be introduced and removed by the patient himself. The little instrument for the self-application of the artificial membrane is depicted in fig. 2. The probe end is inserted into the crown of my little hat, and in this way it can be accurately placed in the meatus, and then detached from the instrument by the aid of the sliding collar. Patients very soon get into the way of adjusting it and slipping it into position with just the right amount of pressure for securing the best result. The forceps is intended to be used for the removal of the artificial membrane, and in doing this patients are guided by their tactile sensibility. Traction is made upon the handle, which ought always to be easily found resting just behind the tragus. It is a matter of great practical importance in every case that the artificial membrane should be selected to suit the shape and capacity of the external ear. It is my practice to regulate the height of the crown by the sensations of the patient, and the breadth of the brim by the size of the meatus. It must not fit too tightly, but simply rest in contact with the meatal wall, so that after it has been put into the right position, it does not get easily displaced.

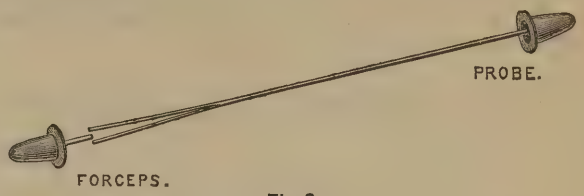

Fig 2.

Fig. 3 presents a diagrammatic section of the ear, showing the usual position of my artificial drumhead. It is not necessary to place the crown upon the perforation, or in contact with the remnants of the tympanic membrane. The surgeon cannot select the point of contact by any internal scrutiny of the organ, but in every case he must be guided by the sensations of the patient and the improvement produced in the hearing power.

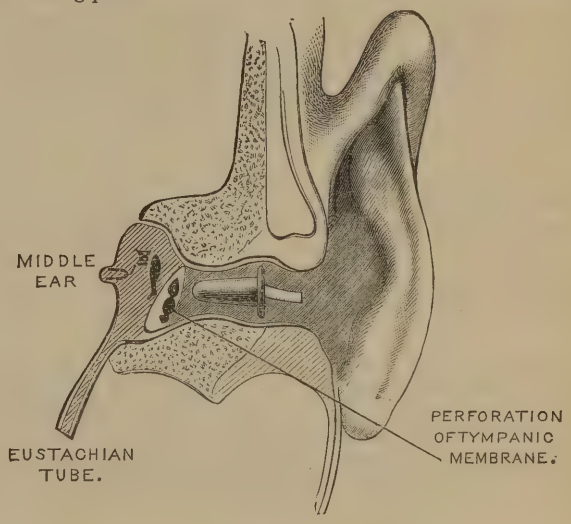

Fig. 3.

The artificial drumhead may be regarded also as an ear protector, and a local antiseptic remedy. I have recently made some impregnated with the oils of eucalyptus globulus, and pumiline pine in combination with other aromatic substances, and their agreeable fragrancy renders them extremely grateful to some patients, especially those who have suffered from offensive discharge. Other patients with perforation of the tympanic membrane, but without serious deafness, have used them as ear protectors with great comfort. In such cases the artificial membrane forms a screen between the middle ear and the external meatus and acts as an efficient shield during rough and cold weather."

Medical Miscellanea.

The subject of our next illustration will be Sir John T. Banks (Dublin).

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The Lord Mayor has sent 40,000 francs to the Pasteur Institute.

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Dr. Bantock has been elected an honorary Fellow of the American Association of Obstetricians and Gynæcologists.

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Dr. Donald Macalister has been elected representative of the University of Cambridge, on the General Medical Council.

Dr. R. W. Reed has been appointed Professor of Anatomy in the University of Aberdeen, *vice* Professor Struthers.

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Drs. Stephenson, Thorne, Corfield, and Ballard have been re-elected Examiners of the Royal College of Physicians for the diploma of Public Health.

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Dr. Oliver, house surgeon to the Preston Infirmary, gave proof of his devotion to medicine and to the interests of his patients by affording the blood required for transfusion into a patient.

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Owing to the increasing popularity of *The Nursing Record*, an American edition is published every week by Messrs. Bromfield & Co., 658, Broadway, New York.

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Dr. W. A. Smyly has been elected Master of the Rotunda Hospital, Dublin, *vice* Dr. Macan, for seven years. What possibilities are open to him!

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Sir Edward Guinness has given a quarter of a million to be held in trust for dwellings of the labouring class. We trust that this money will be expended for the benefit of the people the beneficent donor had in view.

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The following medical men have been elected mayors for the ensuing year:—J. S. Bartrum (Bath), second time; Mr. William Kirk (Hedon); D. H. V. Paulin (Wrexham); D. Sherburn (Hull); Alderman James Coomlis, M.D. (Bedford), second time; Alderman Hugh Moss, M.D. (Congleton), re-elected; Mr. H. Lankester (Leicester); J. M. Morison (Pembroke); Mr. J. Woodhard (Rye).

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Dr. P. Murray Braidwood has received an award at the Glasgow Exhibition, for his exhibit of plans of hospital ships. This memorial diploma is a beautiful work of art, and along with similar awards for the same subject, obtained at the Liverpool, and Adelaide South Australia Exhibitions, is a gratifying testimony to the usefulness of Dr. Braidwood's idea, and its adaptation to the intended purpose of relieving the sufferings of the sick and wounded at sea.

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The Duke of Westminister has just thrown open to the public a new garden in Duke-street, Grosvenor-square, a little more than one-third of an acre in extent, laid out by him on part of his estate from which old worn-out tenements have been removed. Sir Sydney Waterlow has also given for the use of the public of the metropolis, a freehold estate of twenty-nine acres on the southern slope of Highgate-hill, well timbered, and containing one acre and a half of ornamental water.

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The Bishop of Ely, the Bishop of Bedford, the Archdeacon of Oxford, the Vicar of Brighton, and the Medical Officer of Health for Wakefield, have recently presided at Conferences held under the auspices of the Church of England Burial Reform Association, at Cambridge, Westminster, Oxford, Brighton, and Wakefield respectively. Among those who took part in these meetings were Sir Spencer Wells, Bt., Gen. Lowry, Canon Ince, Canon Bright, Canon Heartley, Canon Freeling, the Warden of Keble, Dr. Septimus Gibbon, and Professor Hodgetts. At each conference it was unanimously resolved to memorialise the Government for the protection of the public against the dangers involved in the continued general use of over-crowded cemeteries, and for the amendment of the Burial Acts.

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It is intended to erect a monument in memory of the late Dr. Prescott Joule, of Manchester. The *Journal of the American Medical Association* has the following discriminatory notice of this distinguished English *savant*:

"Dr. James Prescott Joule, who died at Sale on October 9, in the 71st year of his age, was one of the most distinguished men of science which this country has ever produced, and is entitled to be reckoned one of the greatest of original workers in pure science. His great achievement was his determination of the mechanical equivalent of heat. The consequences flowing from the working out of this problem, which was achieved by Dr. Joule with the most consummate skill and admirable completeness, are to be noted in almost every department of science; upon his demonstrations the whole theory of the correlation of forces is mainly based. The most important practical applications have been in the mechanical arts, but even physiology is his debtor."

Correspondence, Notes, and Queries.

Communications, Books, etc., should be addressed directly to the Editor, "*The Provincial Medical Journal*," *Horton House, Halifax.*

Matters of business should be addressed to the Publisher, at the Offices, 10, *Friar Lane, Leicester.*

We cannot undertake to return rejected MSS. unless stamps sufficient for their postage are enclosed.

We shall be glad to receive reports of Medical Vacancies, Appointments, Meetings of Societies, etc.

Papers containing passages for consideration should be marked.

Correspondents must please attest their communications with their proper name and address (not necessarily for publication).

Contributions must be written on one side only of the paper.

MSS. intended for publication to be sent in not later than the 16*th of the month.*

The insertion of any letter in these columns cannot be taken as necessarily indicating our adhesion to the views or statements therein expressed. The same remark applies to articles to which a name or nom-de-plume is attached.

HOSPITAL OUT-PATIENT REFORM AND THE PUBLIC MEDICAL SERVICE.

To the Editor of The Provincial Medical Journal.

Sir,—The following figures, given in tabular form, will help to show how very many persons in this country are receiving free medical relief in one year:

Number treated at 759 hospitals and dispensaries	2,828,296
,, ,, 118 ,, ,, ...	(no returns)
Number receiving Poor-law medical relief, medicine included ...	831,353
Number treated in metropolitan fever hospitals	6,537
Number treated in provincial cities and towns fever hospitals ...	(no returns)
Number receiving free private medical aid from doctors	338,600
Total receiving free medical relief	4,004,786

As regards the number treated at the voluntary medical charities, it has been said that one patient is counted two or three times over. I should like some proof of this. The Poor-law numbers are collected twice yearly only—in July and January—so that all the Local Government Board report says is, that on these two dates so many persons are in receipt of relief. If all were counted in who come between these dates the number would be much larger. If we had the total number of fever cases treated in the various municipal fever hospitals, the total would be very much greater.

As to the number receiving private aid from doctors, I take it that each doctor treats twenty such cases yearly. If we refer to the fourth report of the Statistical Committee of the Medical Council of 1888, we find that there were 16,930 doctors practising in England. This multiplied by twenty will give the above number. The population of England being 28,000,000, this gives us the deplorable fact that one in every six says he or she is unable to pay for medical advice. The above numbers do not include the 457,301 persons who received free vaccination in one year. Nor do they include those treated at the various charitable homes for widows, orphans, fallen women, and such like. I think if one said that one in three was provided with free medical relief in this country, a very near approach to accuracy would be made. I do not say that the medical profession is not paid something for treating some of the above; but I have no hesitation in stating that if all the money received were evenly divided over the above number it would not exceed 2d. per annum per patient.

One correspondent has said that our profession should be a religious calling and not a business. Very well. But are we not told that true charity should begin at home; and that, instead of depending on these

benevolent institutions, we should make due provision for ourselves, our wives, widows, and children? There is no reason, moreover, why a religious profession should be an unpaid one. Is the labour not worthy of his hire? Each clergyman in the Scotch Church has £200 a year at least guaranteed him. In the Church of England each curate has about £120 a year. What doctor has such advantages as these: But the chief point to grasp that we doctors, in giving free treatment to hospital patients, are not performing a charitable act, as it is well known that many thus supplied are in sense deserving of our charity. True charity consists in giving to the proper kind of applicants, and not in making and encouraging well-to-do paupers. True charity also consists in not only relieving disease but in removing the causes which produce it. Why do our hospital reports say each year they are glad to say that there is an increase in the number of patients? Is this anything to boast of? If disease is preventible, we shoud be ashamed of the fact.

The above figures have for so far been unchallenged, and may, I feel, be taken as fairly accurate. This being so, surely it rests with the medical profession to recognise its great responsibility, and to come forward with a scheme by which good honest treatment may be provided for the working classes. The very fact that cheap or sixpenny dispensaries flourish proves the necessity for our providing. If anyone will refer to the *Journal* of August 10th he will find a tabular statement of the average weekly wages paid to sixty-nine trades union workmen, taken from Blue Book C. 5,505, this showing clearly, I think, that these classes are well able to pay small fees, and only such. This is further proved by the fact that the last census returns showed that there were 8,649,259 of industrial classes between the ages of fifteen and sixty-five in England of a population of 36,000,000; over 30,000,000 of these are in receipt of salaries of less than £150 per annum. Yet how can these pay 3s. 6d. or 5s. fees? The vast amount of sickness, again, proves the necessity for our action. Sir James Paget has shown that 15,317,204 men and women between fifteen and sixty-five suffer over 20,000,000 week's sickness, and if we calculate that each one of the entire population suffers on an average nine days' sickness, this will give us a total sick-rate for the entire community of 38,845,000 weeks. At least 13,248,950 persons are ill each year in this country. It will not do to say that the various friendly societies supply the want of medical service, for of the 4,000,000 members belonging to these, about 2,000,000 are insured for sick pay and a doctor; the others belonging to burial societies. It is, therefore, to be hoped that doctors will now try to bring about a lasting reform in our hospitals. If we all tried for once to agree, and not boast that each one had a special solution of the difficulties, then there would be very little call for any Government inquiry, which must show, I fear, that the medical profession has been doing its best to pauperise a very large portion of the well-to-do public. What ends we have to gain in doing so we must know best. At all events the subscribing public are looking rather askance at the present state of mismanagement. Whose fault is this?—I am, etc.,

ROBERT R. RENTOUL.

Liverpool.

A PUBLIC MEDICAL SERVICE.

To the Editor of The Provincial Medical Journal.

Sir,—Always desirous, as you are, to aid the interests of the profession, especially those of the general practitioner, I desire to ask you to call the attention of your readers to the circular issued in the *British Medical Journal* of November 9th, where the editor, by a few thoughtfully conceived questions, endeavours to get the views of the profession as to the utility of a Public Medical Service, as suggested by Dr. Rentoul at the late annual meeting held in Leeds. I trust everyone will at least manifest his interest by replying to these questions in this attempt of Dr. Rentoul to do something to relieve, if not to remove, the ever-increasing injury done to a large body of medical men, both by the great abuse of the out-patient departments of our hospitals and the numerous advertising sick clubs and private dispensaries, for unless something is done to relieve this clamour for publicity by a section of the profession, and the desire for almost gratuitous advice by too many of the public, the inevitable will be that the health of the community will suffer, and medical knowledge and skill will deteriorate, and the medical profession will cease to be the career of a gentleman.

We may not all, nor even the large majority, quite accept Dr. Rentoul's scheme. Indeed, many may think as I do, that the fees he suggests for certain operations too small, and that such fees will not enhance the appreciation of our art or the gratitude of our patients. But Dr. Rentoul deserves the thanks of the profession, and all must appreciate his efforts, the time he has expended, and the trouble and pains he has taken, to remove or to lessen the present difficulties the general practitioner experiences in his desire to attend the sick poor, who are able, and in most cases are willing, to provide for their own medical attendance and medicine when ill. We recognise the fact that this large class of poor, but who are not paupers, must have medical advice, including medicines, for fees very much smaller than the usual fees of a skilful doctor.

I do think the Manchester plan, if well carried out, would greatly limit the number now attending our hospitals as out-patients, and this Dr. Rentoul proves in his letter in this week's *Lancet*. The first year of the experiment, in 1875, "42.32 per cent. were found ineligible for gratuitous medical relief, and were in consequence referred to the branch provident dispensaries, and the preventive nature of the test is so well shown that the next year only 24.50 were found ineligible, and in 1885 only 13.57 per cent."

The abuse, too, of the club system, where no wage limit exists, is perhaps even "a greater injury and loss to the profession, and this is, I am told, especially the case in the country, where not only small tradesmen and artisans, but farmers and others earning even good incomes, join and expect free medical attendance and medicine for 1*d.* per week, and all certificates and examinations as to state of health without any fee. The rule of labour is thus glaringly violated, which in their own case the labouring class very quickly perceive, 'That unless remuneration bears a proper relation to the duties performed there can be no confidence or satisfaction between employer or employed.'"

What we require is to recognise some well-considered sliding scale of payment that could be considerately devised, and by the provident system as easily paid by even most poor people. Dr. J. S. Belcher's proposition, at p. 1129 in the *British Medical Journal* of this week, appears to me a good suggestion. Threepence per month is surely not too much if medicines are included (and this is necessary), even for a man who only earns 15*s.* per week, and should, I think, be the minimum monthly charge for one person. Neither is the addition he proposes of ½*d.* per week for each 5*s.* earned above the 15*s.* an excessive addition.

I hope this effort to get at the opinions and wishes of the profession upon this vexed question of providing medical aid to the poorer classes without impoverishing the profession may result in permanent benefit to many of us who are, and have been, very severely hit, both by the abuse of the hospitals and the numerous sick clubs that have sprung up, like mushrooms, in almost every neighbourhood, and may also lessen the lamentable results of the present unseemly competition between not a few of our medical brothers. If the Council, or a committee approved by the British Medical Association, would suggest some reasonable and adequate scale of fees for visits—fees for operations for poor patients can hardly be fixed; they must depend upon the liberality and time at the disposal of the surgeon, and serious operations are certainly for the poor best treated at the hospital—but for ordinary visits a minimum fee might be fixed—for instance, all who could not pay 2*s.* 6*d.* for a visit, or 2*s.* for a consultation, including medicine, should be attended by the proposed Public Medical Service, whose funds should be augmented by Government, or by public local subscription. Every registered medical man who desired should have the privilege of joining this medical service if he wished, and had been in practice two or three years with good repute. The poor would thus have a large body of responsible medical practitioners from whom to select their doctor, and not as now, at the mercy of the neophyte or charlatan, or even of the unprincipled medical man who is not ashamed to farm a number of cheap dispensaries, managed by unqualified assistants. I quite think some such plan feasible, and before we close or limit the attendances at the hospitals we must have some alternative by which the sick poor can have medical aid at a rate within their means. All the legitimate sick clubs could be drafted into the proposed Public Medical Service, which would soon be appreciated by the public, and prove a boon to the general practitioner. It would doubtless tend to the better, more willing, and more careful treatment of our poorer patients.

No lawyer's fee is less than 6*s.* 8*d.* A modified liberal code of charges would prove as beneficial, I think, to the medical as it is to the legal profession. But union is strength, and we must, if we wish to succeed, all pull together. The issue is almost a vital one, and worthy of the attention of the philanthropist as well as of all medical men who love their profession and desire *to live by it*, to work honestly in it, and to do their best alike for poor as well as rich.—Yours truly,

FRED. H. ALDERSON, M.D.

DYSIDROSIS POMPHOLYX: ITS TREATMENT AND ITS ANALOGY TO TRACHOMA.

To the Editor of The Provincial Medical Journal.

Sir,—I have recently had under my care two cases of the above skin disease. In one case the patient had suffered from a mild attack a year ago, and I then affected a cure with carbolic acid ointment, and iron internally. The second attack was more severe, and caused great inflammatory mischief, affecting the lymphatics. I applied a lotion of the biniodide of mercury in sodic iodide, 1 in 500, and cured the disease in a few days. In the second case eczema existed as a complication, which I cured with borozinc ointment, and the lotion. I think that this disease bears a very close resemblance to trachoma, because both present a "sago-grain" appearance and both are due to the growth of a micro-organism.—I am, Sir, yours truly,

C. R. ILLINGWORTH, M.D.

VOTING BY PROXY.

To the Editor of The Provincial Medical Journal.

Sir,—Although I think matters connected with the British Medical Association are usually better discussed in the columns of its own journal, I accept Dr. Woods' challenge because I am anxious to do what I can to prevent unnecessary waste of time in discussing the proposal which he has made, and which I believe, if carried, would cause a great deal of inconvenience, expense, and difficulty to the association. At the present time, every one who attends the Annual Meeting must admit, the attempt to discuss general questions concerning the well-being of the profession is a dismal failure, owing to the want of time for this purpose, and, we must also suppose, the lack of general interest. These motions are the dread of the officials of the association, who foresee only waste of time, disorder, and ill-feeling, as their result. It would be much better that gentlemen interested in a particular question should bring it before their own branch, and if they are able, pass a resolution instructing the branch representatives to bring it before the Council of the Association, and to urge action in the desired direction. The subject would then have a chance of candid and considerate discussion, and the association would not be rushed into any hasty and possibly imprudent course.

Dr. Woods' objection to this is that there are a number of unattached members. I agree to this, and will heartily support any reform of the constitution of the association which would remedy this defect. The inconvenience of his proposal would be that the association would be constantly the sport of agitators, who would insist on general polls on any question they cared to bring forward, an undertaking involving considerable trouble and expense. It would be necessary for the representatives of each branch to obtain proxies from as many members as possible, so as to support their own views at general meetings, or the elected representatives of the branches would be overwhelmed by the votes of the least responsible and least active members of the association. In short, Dr. Wood's proposal amounts to a revolution in the management of the association. It would withdraw matters from the calm consideration of the Council, and submit every burning question to the decision of a *plebiscitum*. No institution could be governed on such a basis; it is the democratic idea run mad. If the present Council is not elected on a sufficiently broad basis, alter it and improve it if you can; but, unless you wish to destroy the association, do not weaken the Council, and do not encourage the attempt to solve burning questions by votes at general meetings, either with or without the assistance of proxies.

Birmingham. ROBERT SAUNDBY, M.D., F.R.C.P.

[Dr. Woods suggests rather unfairly that those who oppose him are those who wish to make the association purely scientific, and who care nothing for the general interests of the profession. I think I can afford to ignore this innuendo; at least, those who meet me on the Council of the association and on its committees know better.]

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